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ABSTRACT

Investigated was use of an instructional simulation model with elementary classroom teachers to identify learning disabled children, to utilize effectively ancillary personnel, and to initiate remediation programs in the classrooms. Teachers participating in the model were said to view children on videotape in many school settings, review academic achievement by studying records, select course of action on preprogramed materials, receive immediate feedback as reinforcement, study commercial instructional materials, and plan remedial programs for two learning disabled children. Two evaluation instruments developed were an opinionnaire and a set of three microsimulated situations. The simulation model was tested by 17 persons in a small elementary school. Results of the opinionnaire indicated that the model was successful and could serve as inservice training. Analysis of microsimulator showed significant difference between means of control and experimental groups, and two of three subtests showed significant differences in favor of the experimental groups. It was concluded that the simulation workshop did improve teacher observational skills needed to recognize learning disabilities and to formulate remedial programs. (CB)

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This study investigated the use of an instructional simulation with elementary classroom teachers. The primary emphasis was to evaluate the effectiveness of a specially designed simulation model as a means of increasing the skills needed to enable classroom teachers to identify children with learning problems, utilize ancillary personnel effectively, and initiate remediation programs in their classrooms.

A major concern of this study was the development of a viable simulation model. Materials were developed from a variety of sources; i.e., current literature, case studies, clinic records. The aim of this aspect of the study was to fuse theoretical and experiential data with practical simulation techniques.

The simulation model developed for this study allowed the participants to view children on videotape in a variety of school settings, review past achievements by studying school records, choose a course of action on preprogrammed materials, receive reinforcement through immediate feedback, study commercial teaching materials, and plan a remedial program for two children exhibiting specific learning disabilities.

The materials were designed to encourage participants to seek information on each child, explore other possibilities for help, and finally formulate a plan of action.

Case studies and resulting materials were developed for eight hypothetical children. A class of twenty-four elementary children acted out specifically constructed scenes and eight children role played the hypothetical case-study children for the video-taped sequences.

Two evaluation instruments were developed for use in the evaluation of the viability of the simulation package. An opinionnaire was adapted specifically for this simulation; in addition, a set of three microsimulated situations were developed and then validated by a panel of judges. The simulation package and evaluation instruments were pilot tested with a group of regular classroom teachers under structured conditions before final revision of the materials into a workshop format.

The resulting simulation package was presented to the staff of a small elementary school in Baltimore County, Maryland, in September, 1970. The presentation was divided into four stages and encompassed slightly more than five hours. Seventeen persons comprised this experimental group. The control group, for this posttest-only design, consisted of twenty-two elementary teachers attending a summer workshop. A t-test of the difference between the two means was employed in the analysis of the data collected.

An examination of the opinionnaire indicated the simulation package in general, as well as specific aspects of the package, were well received by the participants in the workshop and could very well be a viable vehicle for inservice training.

The analysis of the microsimulator showed a significant difference between the means of the control group and experimental group. A study of the three subtests revealed that two of the three showed highly significant differences in favor of the experimental group. The third test did not prove to be significant.

These results suggest that participants in the simulation workshop have increased their skills in the identification of a variety of learning problems and in the selection of the best procedures for further assistance to aid in the diagnosis. It appears that exposure to the role-playing technique in this simulation, coupled with the audio-visual methods of presentation and problem-solving situations, does improve certain observational skills needed by the classroom teacher to recognize those behavioral and academic indicators of potential learning problems. General conclusions reached through an analysis of the results of this study suggest that this type of simulation workshop provides an effective method of inservice training for regular classroom teachers in identifying and planning remedial programs for children with learning disabilities.

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CHAPTER I

Introduction

Statement of the Problem

It is assumed that there is a need to develop in classroom teachers the skills necessary to recognize children exhibiting a variety of learning problems and plan programs for them. Therefore, this investigation concerned the development and assessment of a simulated instructional approach for use with classroom teachers. The materials were developed to provide classroom teachers with the skills necessary to identify children with learning disabilities, effectively utilize auxiliary personnel and initiate remediation programs within their classrooms. The primary emphasis was to evaluate the effectiveness of this simulation model as a means of increasing these skills.

Rationale

Recent concern for children exhibiting learning disabilities from parents as well as from state, federal and local education departments has led to an increase in the number of programs designed to aid these children to reach their education potential.

A recent study by Weber (1966) gives a conservative estimate that 15% of school age children require some type of special education. Commenting on a bill he introduced to the United States Senate in 1969, Senator Yarborough states that programs for six million educationally handicapped children are needed and only two million are served now. He indicated that children with specific learning disabilities total between 500,000 and one and one-half million, with 18% of these receiving assistance. (These figures are based on the annual reports compiled by the fifty states, as required by Title VI, Elementary, Secondary Education Act.) The Bureau of the Handicapped has estimated that 22,000 teachers and specialists are needed in the field immediately. In a survey conducted by Barch (1968) of colleges and universities in the country, only 350 trained teachers go into the field of learning disabilities each year.

While the programs for children with learning disabilities has increased, many programs have been established, sometimes without trained teachers. Although many different types of programs are being applied, from special classes to itinerant teachers, one major problem complicating the education of children with various learning problems is the shortage of trained personnel.

A survey of projects funded by the federal government (listed in Educational Research Information Center 1966-1969) shows a large segment of these devoted to the area of learning disabilities. A review of the objectives of the projects reveals three major areas of emphasis: establishment of diagnostic centers, establishment of special classes, and assistance to classroom teachers. This last point indicated recognition of the need for training of elementary teachers to identify and prepare instructional programs geared to the special needs of children.

It is assumed that the training of competent personnel in education, both undergraduate and specialized, lies with the colleges and universities; however, in a survey conducted by Chalfant and Kass (1968) of training programs aimed at the specific area of learning disabilities, they found that the production of trained personnel (teachers and resource people) falls far short of the number needed in the field.

Indications in the recent literature (McCarthy and McCarthy, 1969; Towne and Joiner, 1968; Mann, 1969) are that the trend is away from self-contained special classes for the majority of these children. Only the most severely disabled need be in this type of class, the degree of disability would determine the type of remedial program for the child. In keeping with the emphasis on individualized instruction prevalent in education today, it would seem that those children having minor problems could continue their education within the framework of the regular classroom.

The ramifications for preservice and inservice training are monumental. Changes in the teacher's attitude from the current "he doesn't belong in my class" to "what can I do to help him" are essential to this education model. Teacher-training institutions may alter their curricula to better prepare new teachers to adjust their teaching to the individual learning style of each child, but thousands of teachers in the field would be in need of inservice training to affect this change.

Along with this change in attitude, the acquisition of skills is needed, especially in informal diagnostic procedures that would enable teachers to assess the problems of their children and hopefully lead them to seek help in solving these problems. The important aspect of the preservice and inservice training programs would be to attempt to motivate the teacher so she will search continuously for methods of instruction that will fill a child's needs rather than search for ways to make a child fit a particular curriculum.

In order to change a teacher's attitude and thereby bring about change in her behavior and introspection concerning her concept of teaching, it is necessary to first provide a situation wherein the individual (a) knows that he needs to change, (b) aspires to change, and (c) is optimistic about the possibility for change (Blatt and Garfunkel, 1969). Methods used to bring about desired change in teacher attitudes and behaviors are an important consideration in inservice education.

In response to the urgency of need for teachers trained to deal with these various problems, federal, state and local agencies have sponsored two or three day conferences and short term institutes on the topic of learning disabilities. The intent is to enrich the competency of the participating teachers. The conference or institute may be conducted by a college or university, a state department of education, or a local school district. The methods of presenting material and information to the participants may take the form of lecture, discussion, films, slides and other traditional means of communicating ideas and concepts to teachers.

Educators are constantly in search of new and better methods of presentation of materials to teachers. Various combinations of the above methods are used across the country at inservice meetings yearly. The increasing success of simulation in the military and business world and its growth in the field of education would indicate its suitability as a training approach in the area of learning disabilities. The use of a simulated instructional technique would provide carefully controlled situations in which a teacher may react to a variety of experiences and be provided feedback to her decision making behavior. It is thought that simulation, with its requirement of total involvement, would be a means of centering attention, increasing motivation and bringing about desired changes in the participant. The successful development of a simulation exercise aimed at teacher training and dealing with the area of learning disabilities could provide a valuable tool in this expanding field. Hopefully, it would aid teachers in learning an efficient model of remediation and accomodation for use in the classroom.

Definitions

In a discussion of Learning Disabilities the causes of the disability arise as frequently as do the descriptors of the term. The evolution of the term learning disabilities from the earlier terms such as minimal brain damage or cerebral dysfunction would indicate a shift from a medical orientation to an educational concept. A rather complete survey of the nomenclature of learning disabilities done by Pannbacker (1968) pointed out that the insertion of the term "learning" is a recent occurrence and emphasizes the educational nature of this problem. While medical and psychological terminology is of supplemental value in clarifying etiology and specifying diagnosis and treatment, it is argued by many specialists in the field that the primary model should be educational. (Town and Joiner, 1968; Reger, 1969)

With this concept in mind, the formulation of three definitions from very general to more specific will be considered for this project. These definitions have been derived from those surveyed by Kass (1969) as representative of the most widely used definitions during the last ten years.

This first definition drawn from a number of these definitions is general and encompasses a wide variety of learning problems. (1) A learning disability refers to those children with near normal, normal, or above normal intelligence who exhibit one or more significant deficits in the essential learning processes. These children generally demonstrate a discrepency between expected and actual achievement in one or more areas involved in understanding or in using spoken or written language.

The second definition is much narrower and has been developed by Kirk and Bateman (1962). (2) A learning disability refers to a retardation, disorder, or delayed development in one or more of the processes of speech, language, reading, writing, arithmetic, or other school subjects resulting from a psychological handicap caused by a possible cerebral dysfunction and/or emotional or behavioral disturbance. It is not the result of mental retardation, sensory deprivation, cultural or instructional factors.

The third definition, again derived from a variety of sources, is more concerned with a specific area of disability. (3) A specific learning disability is an impairment in one or more specific areas of receptive, integrative, or expressive perceptual processes which may impede learning efficiency. This is not primarily the result of severe sensory, motor, intellectual, or emotional handicap or lack of opportunity to learn.

Still more specifically, a perceptual handicap is an impairment, deficit, or an interruption in the process by which simple and complex information (stimuli) are received, integrated, and responded to. This condition may occur in one or more of the auditory, visual, kinesthetic, or tactile areas to produce faulty verbal or nonverbal responses.

Research Question

Is involvement in the technique of simulation, in the form of a simulated classroom experience, a viable means of increasing teachers' skills in identifying and planning remedial programs for children with learning disabilities within their classroom?

Although the objectives were global in nature, the development of materials was concerned with some rather specific areas of teacher behavior as an integral part of the overall project. These behaviors are:

1. to develop increased sensitivity and interest in the learning problems of children
2. to develop skill in integrating behavioral and other relevant information into patterns indicative of a specific learning disability
3. to increase a teacher's willingness to seek and accept appropriate professional assistance with problems
4. to provide the skills and knowledge needed to set up accomodation and remediation programs in the classroom
5. to motivate teachers to act positively toward initiating such programs
6. to develop the ability to evaluate the success of the program and adjust it according to the students' changing needs.

It is recognized that these specific objectives are not really discrete and it would be difficult to assess them separately by existing instruments; therefore, measurement of their attainment must be on global terms by an instrument developed to focus on the generalized objectives.

Evaluation

The degree of attainment of the objectives stated above were assessed by the use of instruments prepared and developed specifically for this purpose.

An opinionnaire similar to that used by Weinberger (1965) and Sage (1967) was adapted for use at the close of the workshop. This instrument solicited the opinions of the participants regarding various aspects of the simulation exercise.

Three microsimulation situations were developed for use at the close of the final session. These simulated situations consist of a descriptive paragraph and ten to fifteen declarative statements dealing with three children and their learning problems. The microsimulation situations were designed to assess the participants' awareness of the diagnostic, ancillary, and remedial steps involved when encountering children with learning disabilities.

The same set of microsimulations were administered to both the experimental and control groups consisting of inservice teachers attending summer courses in elementary education. An analysis of the data involved a t-test of the difference in the mean scores between the two groups.

CHAPTER II

Survey of the Literature

The Concept of Learning Disabilities

The increasing sophistication, skill, and interest on the part of educators during the last decade has made us aware of the vast numbers of children within our schools who are daily experiencing failure and frustration. Who are these children? What are they like? Why are they failing? Many prominent educators and psychologists have identified, labeled, and studied these children. They have been described as partially academically impaired; they may read well, but can't handle arithmetic effectively; they may relate experiences dramatically, but their writing is illegible or vice-versa. (Barsch, 1968)

These children have been characterised and described both educationally and medically. (Cruickshank, 1966; Grossman, 1966) Their work is a composite of peaks and valleys--some get by and some do not. A complete breakdown showing the variety of descriptive categories commonly attributed to these children and associated with the general term learning disabilities is found in Pannbacker (1968).

A bill by Senator Yarborough introduced to the United States Senate in 1969 stated that the major treatment of learning disabilities rests with education programs.

He indicated that prognosis for improvement is dependent upon recognition of symptoms and proper diagnosis at an early age, with remediation directed to the learning problem. Included in the bill was support for training specialists as well as all teachers involved with these children. The priority was on teacher training and inservice programs for teachers who already work with the children, thereby providing immediate and direct service to school districts.

A survey of current literature would imply that children with learning disabilities are to be found in every elementary school in the country and in almost every classroom. There are varying degrees of disability requiring various types of remedial programs, some in the form of special classes and others in the form of special accomodations made by the classroom teacher.

Almost every classroom teacher has experienced the difficulties of coping with the underachieving child who may or may not also create a discipline problem. The ordinary classroom methods of instruction may not seem effective in reaching a child experiencing continual failure. The failure of these children to adapt to the standards, their failure to reach integrative standards typical of their chronological age and mental ability, and their failure to learn on the level of their intelligence all point to the need for a special or different educational program. Cruickshank (1966) feels that an individual educational plan must be designed for each child in light of the particular psychopathology demonstrated by him and in terms of new teaching which is geared to the unusual characteristics which he illustrates.

In a review of learning disabilities it becomes evident that definition is "in the eye of the beholder." The child exhibiting a learning problem in the schools may be described by a psychologist as having poor visual perception, a psychiatrist as emotionally disturbed, and a neurologist as brain damaged. Because of the wide varieties of disabilities found under the umbrella of learning disabilities, there exists a great diversity of definitions. The definitions for learning disabilities may include the culturally deprived, emotionally disturbed, or dyslexic. On the other hand some authors feel constrained to restrict the definition to those involving an etiology of brain damage. Under the circumstances it is difficult if not impossible to compose an inclusive and universally acceptable definition of learning disabilities. (McCarthy, 1969)

One definition by Kirk (1962) has been accepted by many in the field:

> A learning disability refers to a retardation, disorder, or delayed development in one or more of the processes of speech, language, reading, writing, arithmetic or other school subjects resulting from a psychological handicap caused by a possible cerebral dysfunction and/or emotional or behavioral disturbances. It is not the result of mental retardation, sensory deprivation, or cultural or instructional factors.

A definition similar to this has been accepted by the legislators concerned with providing new federal programs throughout the country. Others in the field may find this definition too broad or too narrow depending on their particular philosophy; however, the term possible cerebral dysfunction allows quite a bit of latitude in determining the children to be included in any program in the schools.

The term cerebral dysfunction (or brain injury in the pure sense) usually connotes direct destruction of nerve tissue, as in a lesion or concussion. The insertion of the word "possible" in the above definition may indicate that other forms of disturbance affect nervous tissue either directly or indirectly and give rise to symptoms of learning disabilities similar to those of brain injuries of the more restricted type.

One of the primary effects of brain injury is the disruption of the organization of behavior both on the input side where the information is entering the organism and on the output side where responses to the stimuli are being patterned. (Kephart, 1968) It appears, however, that the demonstration of cerebral dysfunction is of little relevance to the educator. The identification of specific learning problems and of techniques to ameliorate these problems is the major concern.

The early works of A. A. Strauss (1947) with mentally retarded children whose retardation was presumably due to brain injury formed the basis for the later works of Kephart, Cruickshank, Barsch, Frostig, and Getman. The rationale, experiments, and methods along with description and characteristics of their studies placed heavy emphasis on the perceptual aspects of the problems of these children.

Regardless of the myriad of definitions, causes, specificity or global aspects of this syndrome, virtually every author refers in some manner to the importance of perceptual development in the child. Because of this rather universal concern with the area of perception it would appear that this common thread is one which would warrant particular study.

Although there are many leaders in the field identified with the topic of learning disabilities, a few stand out in the specific area dealing with perceptual problems. These leaders, though presenting varying theories, have developed somewhat similar programs for diagnosing, preventing, and remediating perceptual problems (disorders) in children. The discussion of the perceptual nature of the child's problems is not so much concerned with identifiable evidence of brain injury as the identification of the symptoms (distractibility, perseverations, hyperactivity) and the specific areas where the breakdown occurs. The learning disorder is treated as a specific syndrome. It may be characterized by a disruption in the processing of the information within the central nervous system.

The predominant theme of these authors is that the disorder is usually observed in a learning situation since a major aspect of learning is organizational in nature. There is also agreement as to the basis for perceptual growth being of a sequential nature and part of normal child development. Most experts agree that the child who exhibits symptoms associated with perceptual problems in school has had either a disruption of his perceptual processes or an inadequately developed perceptual system.

Kephart (1960-1968) bases his program on the fact that many children come to school lacking in basic perceptual-motor skills. He feels that many children fail due to the fact that they cannot participate in educational activities because of their inadequate perceptual development. Although their conditions fall short of frank handicaps, they are too debilitating to permit the child to progress through the grades without special assistance. Kephart's program is aimed at developing such basic skills as eye-hand coordination, temporal-spatial translation, form perception, ocular control, and sensory-motor integration. His curriculum stresses the effects of movement on perception and the effects of perception on higher processes. He proposes six stages of development as the basis for his program: motor, motor-perceptual, perceptual-motor, perceptual, perceptual-conceptual, conceptual-perceptual.

The movigenic curriculum designed by Barsch (1965) is similar to that of Kephart in that it has movement as its main theme. Barsch describes movigenics as a theory of movement as it relates to learning. It is aimed at developing the child toward more efficient learning based on movement efficiency. He bases his remediation program on the six channels of the percepts-cognitive system which includes visual mode, auditory mode, kinesthetic mode, tactual mode, olfactory mode, and gustatory mode. Barsch has devised a curriculum for those children who do not exhibit a serious handicap but are not able to keep pace with the mainstream. This curriculum has specially devised methods aimed at following an orderly sequential progression toward more efficient learning and maturity.

Both Barsch and Kephart have had great influence on remedial education for mentally retarded and neurologically impaired children. Their programs, based on a sequential, segmental body organization approach, concentrate upon supplying the child with concepts of posture, laterality, directionality, and awareness of position and body in space. These, they feel, are the necessary precursors to reading and writing readiness. Both feel that this is the motor basis for achievement.

Two programs similar to the above but placing heavier emphasis on visual-perceptual development are those of Frostig (1964) and Getman (1965). The Frostig research and materials have focused primarily on assessment and remediation techniques in the area of visual perception. Her orientation derives largely from the works of Piaget and Werner. Frostig believes that a careful assessment of each child's strengths and weaknesses in six major developmental areas is the basis for designing an individual program. These areas are: sensory-motor development, perception, language, higher thought processes, social adjustment, and emotional development. She developed a test based on the theory that visual perception involves a number of subfunctions which might be independently disturbed. Both the test and the subsequent remediation program may be administered by the teacher within her classroom. The program includes not only visual perceptual training in each of the five areas of visual perception (eye-hand coordination, figure-background perception, form constancy, position in space, and spatial relationships) in which adequate functioning is essential for learning in school, but a program for gross and fine muscle coordination, training, eye movements and enhancing body image, all of which are basic to adequate perceptual functioning.

Getman has developed a program of visuo-motor training based upon belief that visual perception is learned and that it evolves from the actions of the entire organism. Furthermore, he believes that it is necessary to have good coordination of the body parts and body system in order to develop perception of forms and symbols. His model of the visuo-motor complex is a guideline for mind-body training designed to assist children toward their maximum cognitive growth.

A concise description of Getman's program is included in the passage from The Physiology of Readiness (1964).

> The Physiology of Readiness programs recreate the experiences of infancy and early childhood. Children explore their body parts and their coordinations. When they have gained proficiency in these they move to higher level coordinations with the ingredient of visual development introduced and extended.

> Gradually they are introduced to form perception experiences and exercises. These, in turn, lead to symbol perception and recall which leads, finally to the recognition of symbols and forms used in schools everywhere--letters and numbers.

His manual presents six areas for the development of physiological and perceptual readiness in children. These areas are: general coordination, balance, eye-hand coordination, eye movements, form recognition, and visual memory. Though Getman's views derive chiefly from a consideration of ocular mechanisms and visual perception, his thinking encompasses wider areas. There is a distinct commonality between Getman's work and that of Kephart and Barsch.

The general approach advocated by Vallet (1967) is on task analysis and programming of the basic learning abilities that extend from infancy to adulthood. The method is based on the operational analysis of behavioral tasks and their implications for subsequent learning experiences. He groups these basic learning abilities in the six major learning areas: gross motor development, sensory-motor integration, perceptual-motor skills, language development, conceptual skills, and social skills. This program assumes an orderly sequential acquisition and development of skills and abilities through the integration of behavioral standards. Vallet believes that some children, whether they are mentally retarded, cerebral palsied, aurally impaired, or handicapped in other ways, can best be educated by remaining in a regular class while receiving supplementary special education for specific learning disabilities as they may be needed. Vallet, as well as others mentioned above, is concerned with the manner in which the child is able to effectively process, organize, and integrate all previous auditory, kinesthetic, visual and tactual information in order to reach his communicative potential. His program, as with many of the others mentioned, originates with gross motor development.

Although Cruickshank (1961-1966) conducted much of his basic research with brain-injured children, his teaching methods have been widely used with children exhibiting perceptual disorders regardless of the etiology. His basic philosophy is that learning and adjustment are essentially problems of perceiving and conditioning. The research done with brain-injured children revealed that they often evidence pathology of perception in both audition and vision that affects their ability to write dictated spelling words and to perform motor tasks which require motor interpretation of these stimuli. He believes that these children with perceptual disorders have had failure experiences in the school situation and thus to complicate matters, they tend to exhibit emotional overlay.

Cruickshank's remedial program covers the areas of motor control, eye-hand coordination, figure-background, language, and speech. He believes that a program of instruction should be aimed at both the basic and specific dysfunctions which underlie problems of poor school performance and should then take the child step-by-step up the developmental ladder. His informal testing program as well as many of his teaching methods contain such items as pegboards, puzzles, parquetry blocks, stencils, and color cubes. He deals with the utilization of all of the child's senses to bring the child to full capacity in an educational program.

It is rather evident that there exists a commonality among these programs. The various authors are quoted and cross-referenced in publications dealing with the general field of learning disabilities and the specific area of perception. The remediation programs suggested by the authors have their basis in both child development and learning theory. These authors cited feel that the child's learning difficulties, although perceptual in nature, are interrelated with other factors in interfering with progress in school. An important aspect to consider in all of these approaches is an emphasis on the systematic planning of gross motor activities and their integration into a combined sensory and perceptual training curricula as a fundamental prerequisite to achieving academic proficiency.

The fact that the perceptual problems of children become evident in a school setting presents a very real challenge to educators. This challenge, then, indicates that educators have the responsibility to initiate diagnostic and preventive programs as well as implement remedial programs to overcome the perceptual problems of this large group of children so they may reach their full potential.

Role of the Teacher in Identification and Remediation

The identification of children with learning disabilities rests with those people within the educational system in which the child is functioning. It is in this area that the teacher plays the major role. Appropriate educational intervention in the early school years can circumvent learning disabilities, but such intervention is dependent upon prompt identification of the problem.

A leading special educator (Doll, 1968) places the onus of identification on the teacher by asking how she perceives learning disabilities. Does she see learning disabilities as being produced by identifiable objective causes; does she see poor learning as being part of nonconforming behavior; or does she treat the pupil in terms of his disability and modify the content and method of instruction accordingly? He then asks if the teacher who sees the disability then proceeds to remediate it.

Illustrative of the importance of reporting classroom behaviors in the identification of learnig disabilities is the study by Doehring (1960) comparing the results of testing normal and aphasic children. This study demonstrated that uneven performance in the classroom was a good indication of the later diagnosis of aphasia. Strauss and Lehtiner (1947) point up the relationship between classroom behavior and identification of brain-injured children.

Kephart (1960, p. 120) believes that any diagnosis and remediation of learning disabilities is dependent upon identification of the point, in the classroom, where a breakdown in the child's developmental sequence occurs. Goldstein (1962) feels that the teacher need not make distinctions between children based on I.Q. The extent of deficiency in achievement and the way the child goes about learning and solving academic problems are the major factors she needs to know.

It seems that increasing numbers of educators are becoming more alert to the importance of minor deviations in a child's adjustment, performance, and behavior which are symptomatic of disorders in his integrative system affecting growth, maturation, and learning.

The teacher is the person closest to a student during the daily educational activities and one of her most important functions is that of observation. Educators in general and teachers in particular are faced with decisions concerning the behaviors they observe. It would seem a valid assumption that a teacher who is familiar with her students should be able to identify their problems; however, a study done by Austin and Morrison (1963) under a joint grant from Harvard and Carnegie Institute indicated there was a failure of teacher training institutions to familiarize their students with the problems of reading disabilities. Another study done by Richardson (1967) of 817 patients suspected of being mentally retarded and therefore referred to a Child Study Center, showed that 112 (13.6%) had functional dyslexia. The mean I.Q. of this group was 109.

A study was conducted by Ilg and Ames (1965) to determine correspondence between predictions based on responses of children during developmental examination and teachers' ratings of those children. While they found 83% correspondence at kindergarten, they found 68% at first grade and only 59% at second grade. Clearly then, grade teachers in thousands of classrooms need help so that children who are potential dropouts and school failures will be identified and helped before failure becomes a reality.

The importance of the use of teacher referrals and the training of teachers for this purpose receives much support from the literature. Tannhauser (1966, p. 83) stresses the importance of teacher training in research-identification techniques. Grossman (1966, p. 57) believes that teachers should have some background in pediatric neurology, both as an aid in understanding a medical diagnosis and as a help to the physician in early identification and remediation of medical-education problems.

In his discussion of the basis for competency in the teaching of brain-injured children, Cruickshank (1966, p. 7) emphasizes the need of broad training and experience in the teaching of normal children, accompanied by an understanding of the observational techniques for distinguishing the variations in behavior which typify the disabled learner. Likewise in her study of the use of Piaget's techniques with retarded children and slow learners, Stephens (1966, p. 7) states that the early identification of differential adaptive behavior is the primary function of the classroom teacher in the eventual remediation program.

In a survey of 200 kindergarten pupils (Weidig, 1967), a teacher and child development specialist used simple observation techniques and a variety of teacher-administered, informal tests to find traits that might indicate future learning problems. They concluded that I.Q. scores were much less useful as an indicator of reading success than readiness and emotional maturity. They agreed that the techniques employed by the teacher can ascertain the learning problems. Another federal project (Bonaker, 1968) whose objective was to design a comprehensive teacher referral system found that when teachers are given an instrument or guidelines to follow, they can be very accurate in identifying problems. This study recommended intensive inservice training for teachers to attain this end.

As schools are becoming aware of the large numbers of children who will stay in the mainstream of elementary and secondary classes, these teachers are being asked to investigate, learn, and invent new methods of teaching those children with learning disabilities who will remain in their classes. It would seem that with this emphasis being placed on teacher training and the area of learning disabilities, diagnostic teaching will increasingly become a necessary part of the educational system.

It is questionable whether the regular teacher can replace a well-trained and experienced educational diagnostician. The shortage of such personnel, however, and the large numbers of children involved, suggest the importance of finding a better method for the early detection and remediation of learning problems. To this end, it would appear that at least one answer to the problem of early diagnosis is the training of the regular classroom teachers in those methods of behavioral observation which are employed by the specialists.

Simulation in Education Personnel Training

One approach to personnel training involves the use of the simulated environment. Simulation has been defined and described in a number of different ways. Boocock (1966) indicated that simulation provides a vehicle for the trainee to incorporate his own techniques into the decision-making as he seeks to resolve problems he encounters in reality-based situations. Simulation increases the alternatives open to trainees for reinforcement of learning which has taken place under other circumstances. (Cohen, 1964) Simulation would enable the trainee to gain experience in a number of processes considered essential in future performance of the role for which he is training. This method of learning would give the teacher a chance to refine his skill before he faces similar experiences under real circumstances.

Simulation, as an instrument for training and evaluation, was first used primarily in the military, business and industry. The military has used simulation as an instructional technique to train personnel in such combat techniques as infantry planning, radar and sonar operations, and naval maneuvers. (Siegal, 1963) However, simulation has also been used in the behavioral sciences and education during the last few years.

Twelker (1968) finds that over 3000 different simulators are used by the military and commercial aviation. Many are machines, computer fed and electronically controlled. He presents numerous examples of simulation techniques and their implications for education. The Little Report (1968, p. 13) cited by Twelker indicates that there is an increasing dependence on simulation devices. Twelker states that "It goes without saying that complex decision making or identification skills are probably best trained by exercising these behaviors in a life-like setting where the learner may receive immediate feedback as to the adequacy of his response."

Recently, educators have adapted the technique to the teaching process using micro-relationships of interactions to provide learning experiences. Simulation has been used as an inservice technique to improve instruction of administrators in education. (Hemphill, 1962; Culbertson, 1960; Twelker, 1968; Sage, 1968) Simulation materials were first used extensively in an educational setting where the problem solving behavior of administrators performing in-basket tasks could be analyzed. (Hemphill, Griffiths, and Frederiksen, 1962) The original study utilizing a simulated school district was later revised and expanded to include materials for principals, school superintendents, and community college presidents. These materials have received the endorsement of the University Council for Educational Administration and have been reviewed by a publication of that agency. (1965) Modification of a similar school district simulator is presently being undertaken at the University of Pittsburgh. (Stevens and O'Neil, 1969) The original material for administrators has been expanded to include the position of Director of Special Education and introduces the development of programmed instruction material to supplement the actual games sessions, as well as advanced management techniques.

The Special Education Administration Task Simulation (SEATS) game (Sage, 1967) was the first simulation material developed specifically for training administrators of Special Education. These materials were centered around the simulated position of the Director of Special Education in the city of "Dormit" and were devised to provide a sampling of the situations confronting the new director. The SEATS game provided a maximum of realism and involvement of the participants in the role.

One of the earliest federally funded programs to develop simulation materials for use in training beginning teachers was conducted by Kersh. (1961) The program was designed to provide a supervising teacher the conditions to control the stimulus events in the classroom via simulated experiences. The development of this classroom simulator was prompted, in part, by the numerous problems involved in the placement of preservice teachers for field experience.

A later teacher education program utilizing simulation techniques was developed to determine what effects prestudent teaching simulated encounters would have on subsequent behavior during student teaching. (Cruickshank and Broadbent, 1968) Critical teaching problems were presented to teachers using films, role playing, and written incidents. These materials have been revised for both preservice and inservice usage.

Simulation has also been used in providing feedback to persons learning to make teacher-selection decisions (Bolton, 1967) as well as television audience participation programs dealing with community services. (Lee, 1967) An important use of simulation has been recently developed by Boocock (1968) who states that, "Because our field work has suggested that gaming may be an especially valuable technique for problem children, minority groups, or culturally deprived, unmotivated students, and youngsters with low verbal skills, many of our current experiments focus on such youngsters." Simulation training enables a student to practice discriminating cues that signal potential problems. Traditional solutions to the problem of providing effective observation are limited in that the student observer is given little preparation in observational techniques and consequently has little idea of what she is to observe. Classroom simulation allows the student teacher to learn how it feels to be "tested" by the students, to try alternative methods of handling a problematic situation, to experience how students look when they are inattentive or confused, and to learn the immediate possible consequences of her action without the pressures induced by actuality.

A most important feature of instructional simulation is that it trains the student or teacher to become sensitive to feedback. It forces the student to focus on a situation and devise different modes of responding. It offers her an opportunity to build her own strategies of seraching for clues that signal a decision-making process on her part. She has an opportunity to test her own beliefs as to method of responding to problems and it allows her the advantage of changing her behavior in view of the feedback she receives.

Summary

A review of the literature on the concept of learning disabilities, the role of the teacher in dealing with them, and the possibilities of simulation as an approach to personnel training has led this investigator to the belief that such an approach would hold considerable promise for providing the desired training teachers need to increase their skill in teaching children with learning disabilities.

CHAPTER III

Development of Materials

The Instructional Simulation

In order to accomplish the objectives previously stated (Chapter I), an approach to looking at learning disabilities was chosen which involves a gradual progression from a generalized view of learning disabilities toward a more specific concept. Wide philosophical differences could be taken into account in planning the initial stage of the simulation model, but by proceeding in a "funnel-like" pattern each stage could deal with an increasingly more specific concept of learning disability. This would be accomplished by having the participant first identify children having learning problems of a broad nature without requiring them to determine etiology and specific problem areas or to recommend remediation. As each stage of the simulation progresses the participants would be expected to become more precise in their information. The focus on learning disabilities would gradually become more narrow until the final stage would require the participant to plan a program for two children having a specific learning disability in the visual-perceptual area.

During this progression the participant would be asked to make decisions based on increasingly pertinent information. At various steps in this process the participant would be afforded the opportunity to form hypotheses regarding the learning problems of children in a simulated classroom. By the introduction of pertinent information and subsequent feedback through discussions, the participant would be continually reinforced and motivated to proceed further. This opportunity to seek information regarding the learning disabilities of certain children and to receive feedback concerning her decisions would encourage the participant to reassess her own problem-solving procedures and attitudes regarding those children exhibiting learning disabilities in the classroom.

Utilization of Sources

A survey of the literature revealed a large number of specific types and causes for the learning problems of children. The decision to focus the final stages of the simulation on the area of visual perception was based on the large numbers of programs devised for this particular problem, availability of case studies, and suitability to the simulation technique. Although some controversy surrounds the exact causes of visual-perceptual problems, there is considerable agreement upon the basic concepts involved with remediation in the area.

Of the many approved and accepted programs put forth by authorities it was decided to include those whose theoretical concepts and remedial techniques were similar and had been in use within the last few years. Consequently a thorough study of the works of Vallet, Getman, Cruickshank, Frostig, and Kephart was made to determine how they could be used in the design of the simulation and development of materials.

As each piece of background information was developed, careful consideration was given to inclusion of data from these sources. This was particularly true in developing the case studies, psychological reports, and television tapes. The development of items in the later stages incorporated recommendations from these authors as well as direct exposure to their programs in the final program planning stage.

Design of the Model

The design of the total simulation package was based on a study of existing models previously developed in simulation and teacher training leterature. A few existing simulation models (Cruickshank and Broadbent, 1968; Sage, 1967; Twelker, 1966) were reviewed and helped to form the conceptual basis for this particular model.

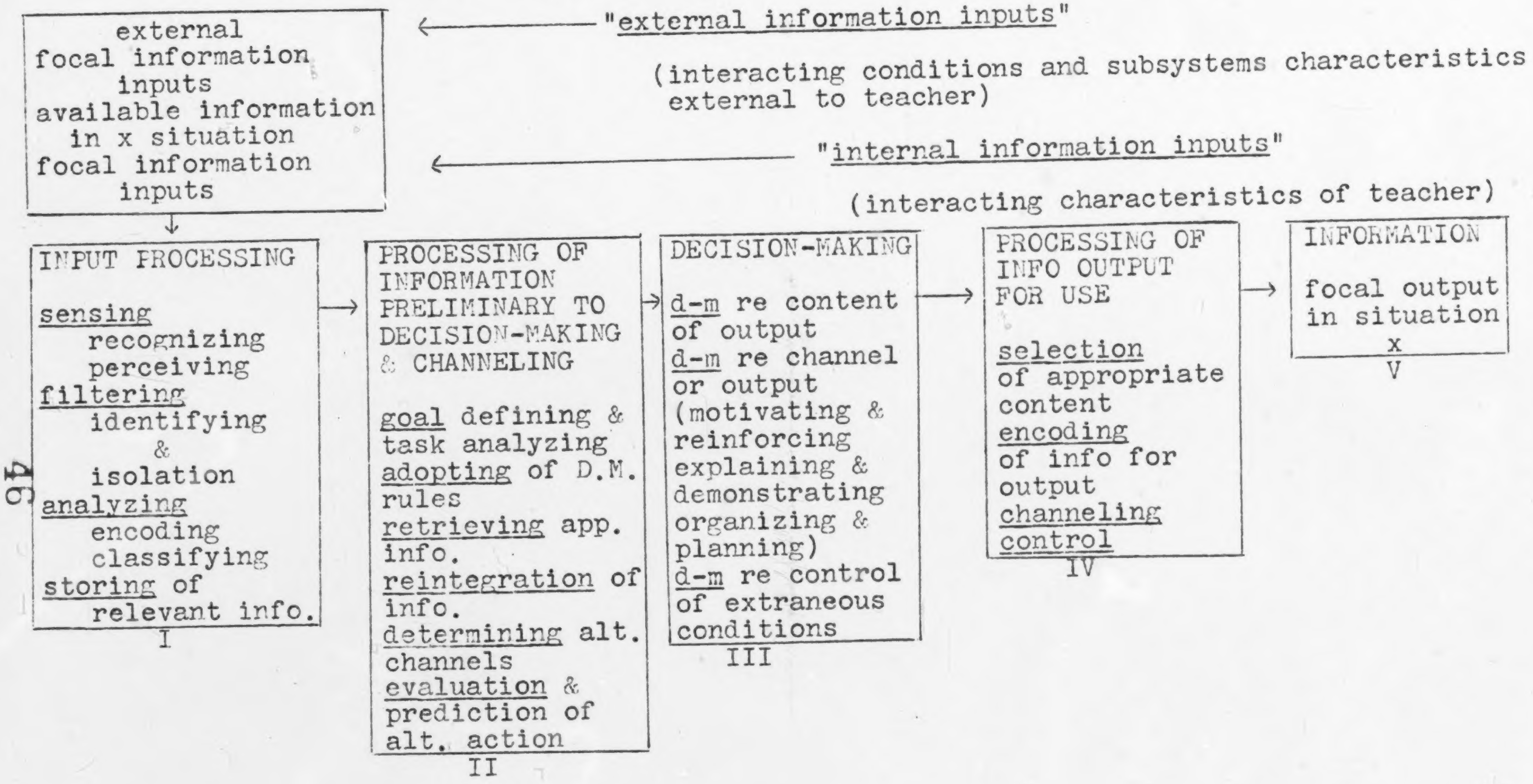
Although simulation was used as the method by which each participant was to reach the stated objectives, the process by which the teacher was to attain the specified behavioral goals was of major importance in designing the simulation package. Of the models of teacher behavior surveyed, that of Ryan (1963) seemed to be the most suitable. Ryan's model of "Teacher Information Processing" has evolved from his studies on teacher characteristics, information processing, and systems analysis. This model, as an integral aspect of teacher behavior, includes a five phase sequence of activities engaged in by teachers. For the purposes of this simulation, the focus was on the following diagram extracted from Ryan's original model. (Fig. 1) It schematically indicates the teacher information processing system that leads to the decision-making and programming that is necessary for the participants to engage in to reach the goals of this project.

Since the purpose of the simulation was to lead the participant through information processing to make judgments and decisions, the development of materials was calculated to most effectively fit the model.

A major concern of this project was to mold a complete simulation package which would be appropriate for regular elementary teachers. Due to the variety of methods used to train inservice teachers, the complete package would need to be adaptable to these diverse styles. With this in mind it was decided to divide the complete package into four stages, each stage containing a number of independent activities forming a step-by-step sequence of input, processing, output, and feedback. Although each stage is a

Figure 1

RYAN'S TEACHER INFORMATION PROCESSING MODEL (EXTRACTION)


external
focal information inputs
available information in x situation
focal information inputs
"external information inputs"
(interacting conditions and subsystems characteristics external to teacher)
"internal information inputs"
(interacting characteristics of teacher)
INPUT PROCESSING
sensing
recognizing
perceiving
filtering
identifying
&
isolation
analyzing
encoding
classifying
storing of
relevant info.
I
PROCESSING OF INFORMATION PRELIMINARY TO DECISION-MAKING & CHANNELING
goal defining &
task analyzing
adopting of D.M. rules
retrieving app. info.
reintegration of info.
determining alt. channels
evaluation &
prediction of alt. action
II
DECISION-MAKING
d-m re content of output
d-m re channel or output
(motivating &
reinforcing
explaining &
demonstrating
organizing &
planning)
d-m re control of extraneous conditions
III
PROCESSING OF INFO OUTPUT FOR USE
selection
of appropriate content
encoding
of info for output
channeling
control
IV
INFORMATION
focal output in situation x
V

self-contained working unit, it is dependent on the activities presented in the previous stages. The total amount of time covered by the simulation encompasses six hours. The design allows for presentation to be made in a series of six one-hour sessions, one intensified six-hour day (with breaks), or two three-hour sessions.

As each piece of material is introduced it initiates the teacher information process and in some cases becomes the feedback the participant may need to confirm or change her decision before proceeding to the next stage. The information process, initiated by the presentation of the simulated materials, is intended to lead the participants to make judgments and decisions. Feedback is provided either by predetermined written responses or a general discussion period strategically placed at the end of each of the four stages. In this manner the participant not only receives information concerning her choice of action, but is given the opportunity to discuss this decision with the instructor and other participants.

The materials are designed to encourage the participants to search for information, seek other help, and formulate a plan of action; therefore, feedback has been deliberately designed to assist the participant in evaluating her decisions without suffering the consequences of a poor decision which might have occurred in real life. In each case wrong decisions are not treated as such; rather they are considered to be a part of a healthy attitude of exploration on the part of the participant. Constant reinforcement and encouragement are given to motivate the participant to seek solutions to the tasks.

Development of the Case Studies

It was decided that in order to facilitate the simulation design it would be best to develop a file of case studies representing a number of predetermined examples of learning disabilities. Since one objective of this project was to make teachers more aware of a variety of learning problems in children, eight case studies were developed. These eight studies represented different types of learning problems covering a number of etiological factors.

Each individual case was a composite developed from a number of different sources dealing with the learning problems of children. The most frequent sources used were actual case studies discussed in the reference literature, clinical records from a learning evaluation center, classroom observation, and personal experiences of the investigator.

A separate file was compiled containing various kinds of material pertaining to the characteristics of each of the eight studies. Pertinent samples of information were gathered from the above mentioned sources including psychological reports, student's classroom work, physician's reports, team evaluations, excerpts from journals, and notes made during observations.

These eight composite cases were then rewritten into eight behavioral descriptions and submitted to a number of doctoral candidates in the Special Education Administration program at Syracuse University for their criticisms and comments. The descriptions were then edited and submitted to a number of professors in the School of Education for their evaluation. The behavioral descriptions were devoid of labels and the professors were asked to give their opinions as to the possible reason for the child's learning difficulties. Enough similarity was derived from their conclusions to justify incorporating the eight case studies into the framework of the simulation model.

A brief description of the eight hypothetical children around whom the materials were developed follows:

> Joe - Age 9.0
>
> Joe could be classified as culturally deprived as he is from a large family living on the fringes of the ghetto area. He is of average intellectual ability, healthy, and well-coordinated. He is agressive in all phases of activity except where strict academic skill is required. He is openly defiant to the teacher and others in authority, although

at times he commands respect. He tends to solve problems in a direct manner--physically, if possible. He looks for immediate and material rewards and is prone to admire material things over intellectual awards.

Joe's school record indicates that he is one to one and one-half years behind in reading comprehension. He has problems with vocabulary, constantly substituting his own words rather than attempting to analyze those he does not know. He can do well in math but does not always do his assignments--sometimes doing nothing. He is well-informed on current events and in some ways is more mature than others his age.

Sherry - Age 8.2

Sherry is the daughter of an Air Force sergeant and has moved frequently across the country. She has been in three schools in three years; twice the change was made in midyear. Sherry is pleasant, well-liked, and makes friends easily. She is very verbal and world-wise. At times she is far ahead of her peers in social awareness. She shows flashes of interest in school work, but becomes quiet and passive in reading groups.

Sherry's school records reflect varying grades due to the number of different teachers and systems. She attempts to do her work and completes most assignments. She is usually a good speller and receives good marks in social studies except when reading is involved. Reading is low due to lack of sequential instruction. Math is erratic; she can do some computation well, but cannot borrow, carry, or multiply. Spelling is her best subject as she seems to learn new words rapidly although she has trouble including these in sentences.

Ralph - Age 8.2

Ralph started his school career with average grades. He did well in the first grade and part of the second. In the middle of second grade his mother and father obtained a divorce. He now lives with his mother and grandparents. Since the divorce, he has become sullen, quick to anger, and exhibited extremes in behavior. His school work has reflected his behavior by showing erratic patterns of performance.

Ralph frustrates easily and either explodes in anger or withdraws completely. He cannot take criticism in any form from his teacher or classmates. When he is in a good mood he works diligently and produces satisfactory work. His work is beginning to show signs of falling behind and thus his frustration and failure are precipitating more frequent periods of depression. Due to pressure his examination marks are usually lower than his class work. Other children are beginning to avoid his company especially during his moody periods. He exhibits a tendency to work well for short periods of time, but frustrates on tasks taking long periods.

George - Age 10.0

George is a year older than most of the children due to his having repeated second grade. He is well-behaved and seems well-adjusted, is liked by his classmates, and joins in games and social activities. George attempts to do his work but usually fails to finish it. He has difficulty following rules and directions; usually forgets them or asks to have them repeated. He is passive in group academic work and tends to keep quiet during these times. He copies much of his homework and attempts to copy in class. He cannot seem to concentrate for long periods of time and thus often daydreams or engages in nonproductive activities (coloring, reading comics, etc.).

George's school record shows a consistently low pattern of achievement. Kindergarten and first grade were barely passable. He had to repeat second grade as his grades were low in all areas. Third grade shows a little improvement. His records show him to be at least one year behind grade level scores.

Ronald - Age 8.4

Ronald is pleasant and likable, accepted by his classmates, and readily joins in activities. He continually exhibits excessive motor activity. Ronald cannot sit still, stay at one activity, or keep quiet for any length of time. He is not destructive, but constantly rips things or disarranges materials in the room. Usually he volunteers for any activity that will get him out of his seat or the room. He runs constantly on the playground, but cannot seem to stay in one game long enough to finish it. He does his best work when he is by himself or has the teacher alongside to keep his attention on the task. Any small extraneous noise will cause Ronald to quit his work to investigate or question it.

Ronald's school records and class work show a very erratic pattern over short time, but are only a little below average in the long run. He usually does extremely well on short tests or the beginning of tests, but falls down completely if they take any length of time. His written work is usually sloppy and hard to read, but has good content. His math suffers a lot, due to this sloppy work, as he has problems placing numbers in columns and rows. He tends to do things fast to get finished or in spurts of furious activity.

Garrett - Age 8.7

Garrett is somewhat of a puzzle to his teacher. He is a cooperative boy, but at times seems to be in a world all his own. His work is erratic and seems to follow certain patterns. He does well in some areas of social studies (maps, making charts, etc.) however at times he fails to comprehend some of the easiest details. His math is very good when simple computations are involved but he has done poorly in any type of problem requiring comparison of numbers and written numerals. He cannot define any mathematical terms, yet he is able to perform the task when written on the board. Any material presented orally is not understood and directions are completely misconstrued. He is a word reader and can read stories that he is familiar with, but cannot learn new words or read when material is first presented.

Garrett's school records are poor in most areas although he does well in most games and art work. He does not respond orally in class at all and tends to avoid involvement. His spelling and reading are extremely poor. His inability to follow directions exasperates the teachers and results in poor test scores. He has been recommended for speech therapy due to his use of very short sentences and use of wrong words at times. He consistently has trouble with abstract vocabulary words.

Art - Age 8.6

Art has been having more frequent periods of frustration and lack of success. His grades are starting to drop as his classroom performance is becoming worse. He has always encountered trouble when engaged in prereading and reading exercises. He constantly reverses letters and numbers and sometimes words. He has extreme difficulty concentrating on the sentences and paragraphs when reading, usually reading a word at a time with poor comprehension. He never seems to be able to follow the story and consequently he frequently has to be shown where the class is reading. Art seems to do much better in general discussion groups and comprehends current events rather well.

Art's school records indicate very slow progress in all areas except math, which he enjoys. His achievement scores show practically no progress in reading during the last year. His spelling is rather erratic as he does well on tests but poorly on every day written work. The teacher gives him credit for orally spelling words on which he reverses letters. He is still printing and refuses to attempt cursive writing, perhaps due to lack of success. Art enjoys participation in projects, field trips, gym, and oral activities. He also achieves considerably more success and performs well in these activities. His math computation is much better when he has assistance from another person.

Jim - Age 9.3

Jim is a little older than most of the class because he was held out a year before entering first grade. His entrance tests revealed that he was immature in behavior and development. He is a pleasant boy and usually very cooperative in school. He gets along with the other children but usually does not enter games due to his lack of coordination. Jim is unable to do the simplest exercises and physical activities without losing his balance, stumbling, or falling. He is constantly bumping into things and is like a "bull in a china shop" according to his teachers. His work is usually sloppy, erased, and seldom finished. He reverses letlers, forms, and words. Jim has extreme difficulty with reading and he is a "word reader." He lacks word attack skills and sometimes adds words to the tests to force a meaning (often the wrong meaning).

His teachers are constantly after Jim to improve his writing as it obscures what they feel to be comprehension of the material. Jim's writing has not improved to any degree from first grade and his posture at the desk and board is poor. He still has some difficulty discriminating left and right. Spelling is the only subject in which he has any success and this is only when his teachers allow him to give oral answers on tests due to his poor writing.

Development of Videotapes

After the eight case studies had been completed and behavioral descriptions written to describe each child and how he might act in school situations, procedures were needed to portray the behaviors in an observable medium. It was decided to choose a number of school activities which could act as a setting for videotaping. Each setting had to be planned so as to display the learning difficulties of the eight children and at the same time include the normal activities of the other children. Since this was to be a third grade classroom, the activities would revolve around regular third grade lessons. The activities would also have to adapt to filming procedures and still depict the child's learning disability in a number of different ways.

The situations finally decided upon for the videotaping were: the children playing on the playground, participating in building a clay map, and drawing a map on the board. The playground activities were chosen so as to have the opportunity to include certain behaviors and motor skills which play an important part in the diagnostic procedure. The chalk board scenes and clay map scenes were done twice, each time with a different group of children so as to provide the participants with an opportunity to view all children in a variety of settings.

With the situations to be simulated having been chosen it then became necessary to devise the means to display the learning difficulties of the children in each of these settings. The eight children would have to provide clues in each scene that could be observed, noted, and later compiled by a participant as part of the identification of the child's learning problem.

Development of scripts Scripts were written for each scene to be filmed. These scripts were devised to fit the general pattern of the scene and then rewritten to include words, actions, or patterns of behavior indicative of the learning problems of the eight children. The formation of the scripts relied heavily on information compiled in the case study file and reference works of authorities in the field of learning disabilities. In some scenes two or three of the children would be interacting with others in the class in such a manner that certain clues to their learning difficulties would be evident.

In order to insure a maximum amount of realism to the scenes, the scripts were distributed to five elementary teachers from four different school systems for their opinions and suggestions as to the language, content of the conversation, and description of the learning activities. The scripts were then revised to incorporate the suggestions made by this group.

Selection of school and class Choosing the school in which to do the actual videotaping involved establishing criteria to be met and obtaining permission to videotape in a school meeting these criteria. In order to produce a simulation package capable of reaching teachers employed in a variety of communities, it was necessary to find a school fitting these requirements. Three schools meeting the basic criteria were located within the city of Syracuse, New York school system, and permission was obtained to conduct research in one of these schools.

The school was located on the fringe of the urban school system which did in fact include a somewhat divergent socioeconomic community. Although an old building, it had been well-maintained. A meeting with the school principal was arranged to gain her approval and help in selecting the third grade class to serve as the role-players in the videotaping.

Following the selection of the class, a discussion was held with the teacher to explain the objectives and procedures as well as solicit her cooperation in the project. The teacher, by virtue of her familiarity with the children, helped to choose the children best suited for the role-playing parts. Through the teacher's enthusiasm the students in the class unanimously agreed to participate in the simulation. Written permission to participate was given by all parents of the children.

Preparation for videotapes Following the selection of the children who were to appear in the previously described scenes, permission was obtained from the teacher and principal to conduct a limited number of training sessions with these children. Due to scheduling problems within the school, a minimum amount of time was allotted for coaching the children in their parts. These sessions were conducted on four successive afternoons for a period of one and one-half hours each. Only one student was replaced during this period and this occurred after the first day. As the training progressed it was noted by the investigator that the children were able to ad-lib, using their own expressions, to produce a more natural situation. Consequently some of the children preferred to use their own wording, referring to the behavioral description only as a framework. Other children relied on their ability to memorize the script as given to them. Adjustments were made in the scenes during rehearsals so as to facilitate the lighting and camera angles.

The only props needed in addition to the children's normal classroom materials were a drawing of the state on the chalkboard and a clay map. The map was constructed and extra clay was supplied as needed. Each student was provided with a name tag, both front and back, to aid in identification during the taping and to provide the viewer with a means of associating the children with the other printed material comprising the simulation package.

Videotaping the simulated situations The videotaping covered three afternoons; one day for the outdoor playground sequences, one day for the classroom scenes, and one day for the testing sequence. Two cameras were used as well as the videotape recorder and monitor. The personnel involved included two professors with experience in simulation procedures, one graduate student with experience in instructional technology, and the investigator who had coached the students for the role-playing situation.

Each scene was enacted and taped twice so as to provide the students with the opportunity to feel comfortable in their roles and to give the cameraman the choice of the best scene. Following the taping, each scene was played back on the monitor in order to provide an opportunity to review the scene for clarity and/or possible retake.

The taping of the simulated testing scene involved one-half day with very little coaching as the two students chosen for this part performed well and required little prior preparation.

The tapes were then played in their entirety and the best scenes chosen for the final tape. The tapes were edited, dubbed, and put into sequence on a master tape for use with the appropriate stage in the presentation.

Development of Printed Material

It was felt that two types of material would need to be developed for the participant to reach the objectives of the simulation exercise. One type of material supplied to the participant would be informative and useful in the diagnostic procedure. The other type of material would revolve around problem-solving situations and would involve the participant in a decision-making process. In both cases it was important that the materials provide useful information which might be referred to when making decisions. The materials were constructed in such a manner as to facilitate the role assumption.

Various sources were consulted in the construction of each piece of material. A few of the most frequently used of these sources were: case study files, reference books, actual reports, review of existing forms, student's work, and consultation with other educators. The following is a list of materials constructed specifically for this simulation package and a brief description of each item:

Class lists were devised to cover the past year (third grade). The information on these lists included the achievement scores, I.Q. scores, attendance, reading levels, and teacher comments, for an entire class of twenty-four children, including the eight who would receive special scrutiny. A class picture showing each child with his name tag was included to help the teacher familiarize herself with the members of the class as they appeared on the television screen.

Cumulative record folders were constructed for the eight children and contained such information as family data and home conditions, attendance information, test results, child's picture, reports of parent-teacher conferences, teacher remarks regarding unusual behavior, and other school data.

Samples of students' work were included to give the participant a graphic picture of the students' classroom performance. Within each folder were at least two pieces of this work; either art, spelling, or math. In some cases this was a copy of the actual work of a student with a learning problem, and in other cases items were artificially constructed to depict an area of difficulty.

Psychological reports for each of the four students exhibiting a specific learning disability were carefully constructed with the assistance of a school psychologist to insure proper procedure and realism. Each report contained the results of a number of psychometric instruments as well as an interpretation of the results.

A study guide and bibliography of perceptual processes were written to introduce the participant to the terms used in learning disabilities and the definitions of these terms. An educational example of the perceptual process was also included to aid the teacher in identifying the term with classroom situations.

Results of a Frostig Developmental Test of Visual Perception and an explanation of the scoring procedures were included to add yet another piece of pertinent information to the total package. This item was devised with the help of a psychologist to correlate and support the data previously given.

An explanation of the Purdue Perceptual-Motor Survey scoring system was extracted from the test booklet for use in the participant scoring stage of the sequence.

A Choice of Action form was constructed as a task item to force the participant into a decision regarding her selection of the best source of information. The participant is given nine choices from which to make the selection as to whom or where she should go to receive the most help. The participant is given four chances to make the selection which would yield the most information in this situation.

The Response Form to the above items was designed so as to give the participant the opportunity to receive a memorandum, note, or narrative regarding her choice. Each response to a choice from the above form was carefully constructed to allow the participant an opportunity to receive feedback to the decision. The feedback, if negative, would not penalize the participant; rather it would encourage her to look elsewhere for assistance. By having four chances to receive feedback, the participant would have a better opportunity to reach the best source of information.

Program Planning Guidelines were developed for use in the last stages in order to provide the participant with a practical framework in which to work.

Two forms were developed to allow the participant an opportunity to record her diagnosis of the child's problems and give the reasons leading to this decision. Each form was designed to fit into a particular stage and requested progressively more astute observations and conclusions.

In addition to the above material, actual copies of the Purdue Perceptual Motor Survey forms were supplied to each participant for her use during the scoring of these taped sequences of children responding to segments of that examination.

In order to assist the participants in the final planning stage it was necessary to provide them with commercially available material. A number of programs, kits, reference books, and other instructional materials were provided for the participant to become familiar with and use in devising the program required in the final stages.

As a final examination of the materials preceding the printing phase, a condensed presentation was made to a group of doctoral candidates in Special Education Administration. During this pretesting, the videoed and written matter was subjected to close scrutiny as to technical errors, credibility, and organization. Final changes in the format as well as alterations of the various forms were made as a result of this review.

Overview of the Simulation Package

The total simulation package is divided into four stages. These stages are sequential in nature and designed to fit into convenient time blocks. Each stage has a definite purpose and involves the introduction of information as well as problem-solving exercises. The overall objective is to lead the participant through a process of identification, educational assessment, and program planning for children exhibiting mild or moderate learning disabilities.

The first stage requires the teacher to identify those children who exhibit certain behaviors which may indicate an existing or potential learning problem. The teacher is given the opportunity to view a videotape consisting of a class on the playground and engaged in classroom activies. In addition, she is provided with class lists which include achievement test scores, reading levels, and group I.Q. scores.

The teacher is then asked to list those children she has chosen and indicate her reasons for including each child. A discussion period at the conclusion of this stage deals with the children chosen and the rationale leading to their inclusion. Of the twenty-four children in the class, eight show definite indications of learning problems. By involving the teacher in the total group discussion, an opportunity is afforded to cover the various indicators of individual learning problems as well as investigate a wide variety of learning disabilities.

In the second stage, further information is introduced in the form of cumulative records and children's work. The teacher is then asked to review her initial hypothesis, add any additional information extracted from these records, and form a new hypothesis regarding the learning problems of the eight children.

A discussion session at this point is concerned with reviewing the process by which the teacher arrived at the initial diagnosis, the types of learning problems encountered and the differences regarding general and specific learning disabilities. Four children exhibiting general types of learning disabilities are discussed with the emphasis placed on the teacher's awareness that these children will usually be found in most classrooms and will remain there. The remaining four children represent different types of specific learning disabilities which cannot be defined precisely with the present information.

The teacher is then asked to choose the best source from which to obtain further information necessary to aid in the diagnosis of the children's learning problems. Forms are provided which give responses to the teacher's choice. In this manner the teacher may select a source of information, receive a response, judge the viability of the response, and then seek help from another source if the first response is inadequate.

The objectives of this stage are to aid the teacher in discriminating between general and specific learning disabilities and to seek help from ancillary personnel when diagnosing a child's learning difficulties.

Stage three is concerned with supplying further information in the form of psychological reports, Frostig test results, and a study guide of terms used in learning disabilities. In addition the teacher is introduced to the scoring procedure for the Purdue Perceptual-Motor Survey. She is then asked to score the responses of two children as they perform this test on videotape. The teacher is then required to collate all information received on the four children, describe the child's problem in educational terms, list the factors leading to this conclusion, and specify the different learning disabilities of the four children.

The discussion period in this stage focuses on the conclusions regarding the specific learning disabilities of the four children. Of major concern are the step-by-step processes involved in the identification and diagnosis as well as the contributions of ancillary personnel in this process. The differences between the specific problems, how they may be helped, who should be involved, and the teacher's role are also discussed. The emphasis is placed on the two children exhibiting problems in auditory perception and hyperactivity, as the two children having visual perception problems will receive the focus of attention in the last stage.

The fourth stage requires the largest block of time as the teacher is asked to plan a program for the two children displaying slightly different visual perception problems. They are to establish criteria for the program regarding time considerations, availability of supplies, utilization of other staff members, and parent involvement. Each teacher is asked to plan a program as she visualizes it according to her own perceptions, criteria, and ability. Various materials in the form of texts, reprints, teachers' manuals, commercial kits, and other instructional materials are provided to assist the teacher in this stage.

The objectives of this stage are not primarily concerned with the accuracy or completeness of the program planned by the teacher, but rather the benefits accrued by involvement in the process. As the teacher reviews the various instructional aids available to her and incorporates them in her program, she will increase her awareness of various possibilities for this type of activity in her classroom. A final discussion period is held to consider the total process, how it may be applied in a classroom situation, the teacher's role in the area of learning disabilities and how the regular classroom teacher can facilitate the learning process in those children having difficulties in an educational setting.

CHAPTER IV

Procedures

Research Design

The design employed in this study is described by Campbell and Stanley (1966, pp. 25-27) as the "Posttest-Only Control Group" design.

$$R \quad x \quad O_{1a}$$

$$R \qquad O_{2b}$$

R . . . . . random assignment was made to treatment and control groups. (Discussion of the two groups was covered in Chapter III)

x . . . . . the independent variable, the Simulation Workshop.

O_{1a} . . . . the experimental group's performance on the microsimulators.

O_{2b} . . . . the control group's performance on the microsimulators.

The selection of the research design was based on the decision to eliminate a pretest. Campbell and Stanley (1966) have indicated that an interaction effect between pretesting and treatment should be avoided when possible. Hovland, Lumsdaine, and Sheffield (1949) have also indicated that this interaction effect is to be avoided when there is a possibility of sensitizing the participants to the materials. Campbell and Stanley (1966) stress the importance of avoiding the "giveaway" repetition of identical or highly similar unusual content. "Where highly unusual test procedures are used, or where the testing procedure involves deception, perceptual or cognitive restructuring, surprise, etc. designs having unpretested groups remain highly desirable if not essential." In addition, the presentation of x (simulation workshop) and the posttest (O_1) was delivered to the groups as a package thus a pretest (constructed of similar content) would be awkward. The nature and content of the instrument developed for this study would, in fact, sensitize the participants to the materials and evaluation instrument. All factors considered, it was decided to proceed with the posttest-only control group research design.

Selection of the Sample Population

In order to evaluate the appropriateness of the simulation approach for use as a teacher training technique, it was necessary to develop a research design utilizing a group of teachers as similar as possible to the target population. Since the simulation workshop approach was designed for use with regular classroom teachers, the evaluation would necessitate having two groups of teachers with comparable training, experience, and background. It would be extremely difficult to insure complete similarity between these groups, however the nature of their positions as elementary school teachers would provide a basic similarity in training and experiential background. The one restriction would be that they not have course work or experience in the area of learning disabilities.

Given that degree of similarity, the three microsimulators would be suitable evaluation instruments as they were designed to portray children with mild to moderate learning problems normally found in regular classrooms.

A practical consideration was finding a number of persons meeting the criteria who were willing to act as the experimental group and participate in a six-hour workshop. A comparable group meeting the basic criteria was selected to act as the control group. This control group was composed of twenty-two elementary teachers attending an inservice course at Syracuse University summer session.

The experimental group chosen for the study included the total faculty of a small elementary school. Arrangements were made with the principal to include the simulation workshop as a part of the preschool inservice program. Those participating in the workshop included the principal, school librarian, and fifteen teachers. Although the simulation workshop is aimed at the regular classroom teacher, it was decided that the opportunity to present it to a total school staff would expand the possibilities for its use as a training technique.

The two groups were similar in a number of ways. Even though the principal and librarian were not teaching children in a formal sense, they were in a position to observe children and by virtue of their normal contacts be able to fit into the framework of the target population. All participants in both groups had graduated from undergraduate education programs or completed the requirements for a teaching certificate. Participants in both groups, through their training and occupation, were in a position to observe, diagnose and plan remedial programs for elementary children exhibiting learning difficulties. Since the focus of the workshop was to improve these functions and the microsimulated situations were designed to assess the teachers' improvement in these areas, both groups satisfied the requirements for comparison in the research design.

The control group was asked to respond to the microsimulators during a portion of the class period. The instructions consisted of asking the class to read the case studies carefully and choose the degree with which they agreed or disagreed with the list of statements following the case study. No time limits were imposed and each person was encouraged to answer each statement. The workshop was presented to the experimental group as part of their inservice program. A detailed description of the workshop is found in the following sections.

The Simulation Workshop

Introduction

The introduction to the workshop was given as soon as all seventeen participants were seated. This introduction included a research survey of the need for inservice training of regular classroom teachers to provide help for those children with mild and moderate learning problems. Points covered during this phase dealt with the special class model and labeling of children, those children who would not fit any category, and the concern of conscientious teachers for these children. The objectives of the simulation were mentioned regarding the attempt to increase awareness, seek professional help, and develop skills in identification and remediation of children with learning problems.

Also included in this introduction was the description of the simulated school and the key role in the simulation. Participants in the exercise are to assume the role of the third grade teacher, Marty Miller; the time is mid-year and she has just recorded the achievement test scores on the class record sheet. Marty is reviewing the scores and reflecting back over events in the classroom and on the playground during the first semester. As she reflects, she begins to remember many behaviors exhibited by the students that could have possibly indicated a learning problem.

Stage I

The first stage begins by the participants being asked to open their folders containing the class lists (A and A_1), class picture, observation record form (B), initial awareness form (C), and a primary identification form (E). Participants were given the opportunity to become familiar with the children in the class and their previous work by studying the class picture and the class lists which included test scores, teachers' comments, and attendance records for second and third grades.

The participants were then informed that they would view a videotape of the children in the classroom and on the playground as a means of reflecting through the eyes of Marty Miller. They were cautioned to be alert to the actions and comments of the children and record these on their observation records.

The first scene on the tape consisted of a slow panning of the class as they entered the room and took their seats. Name tags were attached to allow the viewer the opportunity to identify each member of the class. A series of scenes focused on the children as they engaged in various playground activities. One scene involved the girls jumping rope and the intrusion of one boy and the subsequent behavior of the group toward his ineptness. Other scenes centered around the boys as they played kickball. Sufficient exposure was given to most members of the class, both at bat and in the field.

The next four scenes revolved around two types of classroom activities. Two scenes were of children engaged in making and discussing a chalkboard map. Each scene involved a different group of children to afford the viewer an opportunity to observe the behaviors of a large number of children. These scenes were rather short, so they were shown twice to allow the viewers ample time for observations.

The final two scenes depicted separate groups of children building a clay map. The children engaged in discussions and debates regarding various aspects of the map. Each activity portrays the children in both verbal and motor activity affording the viewer an opportunity to observe a variety of different behaviors.

Following the videotape phase, the participants were instructed to collate their perceptions from the films and class lists and to select the children who might manifest symptoms of a learning problem and need special help. A discussion session followed in which the instructor asked for the names of the children chosen by the participants and their reasons for the choices.

The eight children depicting a variety of learning problems had been predetermined and the discussion was aimed at leading the group toward selection of these eight children from the whole class. Observations of any one member of the group regarding a particular child were discussed and used as a basis for building isolated behaviors into patterns indicative of a learning problem. In this manner any member of the group would suggest a child and indicate the behavior observed on the tape or derived from previous information (forms A and A_1). Other participants would then volunteer any clues they had noticed, thus building a list of behaviors, achievement levels, and other information about that child. Each recommendation was handled in this manner until a consensus was reached on the eight or ten children selected by the group. Although the participants were directed toward the eight children around whom subsequent material was designed, each opinion and recommendation was subject to debate and consideration by the group.

The discussion then centered on the broad definition of learning disabilities and the differences among the reasons for each of the eight children encountering difficulties in school. Interaction within the group also centered on the importance of the teacher as an observer interested in seeking pertinent information useful in diagnosing children's learning patterns.

Stage II

Stage two was initiated by distributing cumulative record folders containing information regarding each of the eight identified children and samples of their work. The participants were asked to review each cumulative record, take notes of pertinent information, add this to the information previously gathered, and arrive at a more definitive hypothesis regarding each child's learning problems (form E).

A discussion session followed this work period and centered on the process of identification to this point, the definitions regarding both general and specific types of learning disabilities, as well as the clues that teachers may look for when attempting to identify various types of learning difficulties. The participants were encouraged to give their perceptions as to the reasons why these eight children were having difficulty in school. Difference of opinion and interaction were encouraged so as to stimulate interest and motivation. The four children having general learning problems were discussed as were the possibilities open for them and strategies teachers may take in their classrooms to help these children. Opinions were solicited but not debated as to the possible sources of information needed to determine the specific learning disabilities of the remaining four children: Art, Garrett, Ron, and Jim.

The final phase of this stage consisted of involving the participants in making certain decisions based on information received to this point and their conclusions deduced from this information. The participants were to make these decisions by choosing a course of action (form E) and receiving feedback to their choice (form G). Each person was given the opportunity to make her choice as to where to seek further information needed in her diagnosis of the specific learning disabilities of the four children.

The responses in form G were designed to lead the participants toward the psychologist and informal testing as the best means to aid in the diagnostic procedure. As each participant arrived at this conclusion or completed the choices, she was handed a packet of four forms containing the information needed to aid in the diagnostic process. This information consisted of the memo from the psychologist (form H), the study guide (form F), and a scoring booklet and sheet for the Purdue Perceptual-Motor Survey.

Stage III

At this point the instructor commented on the importance of the psychologist's report as well as supporting the other choices as being part of a healthy investigative spirit. One of the choices involved the use of informal tests and the response stated that this opportunity would be forthcoming. The instructor announced that the participants would be actually involved in the informal testing by scoring two children performing the various subtests of the Purdue Perceptual-Motor Survey. The instructor and participants reviewed the scoring procedures for the Purdue (form J). The videotape sequences of Art and Jim were then viewed with the participants scoring each item in the scoring booklet. Those items not included in the tape had been filled in previously on the appropriate parts of the scoring booklet.

At the conclusion of the tape, the participants were given an opportunity to complete the profile sheet of the Purdue Perceptual-Motor Survey. During this period the completed Frostig tests (form I) were distributed to provide additional data. The final diagnosis sheet (form O) was also distributed at this time. This form was designed to furnish the participant the opportunity to gather the information received, record the final diagnosis of the children's learning problems, and list the factors leading to this conclusion. This exercise requires the participant to retrace her own diagnostic methods, analyze her procedures for seeking assistance, and review her knowledge of the learning process in children.

The discussion period at the end of this stage was shorter than anticipated and centered on the final diagnosis of the four children, the key pieces of information strengthening or confirming the original hypothesis, and the differences among the four types of specific learning disabilities. The participants were encouraged to give their opinions of possibilities for remediation within the framework of the existing public school organization. Due to the shortage of time, the major portion of this discussion and feedback session focused on the two children having slightly different types of visual perception problems. The instructor emphasized the viewpoint that many children exhibiting these mild to moderate perceptual problems impeding their ability to learn were to be found in many classrooms and would remain in these regular classrooms. The participants were encouraged to visualize Art and Jim in their classes and consider strategies to help them overcome their learning problems.

Stage IV

A short introduction to the procedure to be followed was given by the instructor. The participants were informed that they were to plan a program for Art and Jim utilizing the instructional materials, commercial kits, and textbooks in the room. These materials focused on a variety of techniques and teacher aides used to understand and remediate visual perceptual disabilities. The participants were to select the methods and materials needed to plan a remedial program for the two boys exhibiting slightly different visual perception problems.

Criteria sheets (form L) were then distributed and the participants discussed the criteria to be used when planning the program. They were informed of the amount of time in which they were to do this and instructed to review the materials, consider the time they might devote to a program during class time and who on the staff could assist in implementing the plan. Each participant was to plan her own program and then meet with one or two others to discuss the merits of each program.

A large block of time was devoted to this phase of the workshop and the participants divided their time between studying the instructional aids and writing the program. A final discussion session followed this section. The session covered the programs in light of the criteria established. The participants centered their discussion on the amount of time available to them and the materials with which they had to work in their classes. It was pointed out by the instructor that many of the materials needed could be borrowed from instructional materials centers, made from originals, or shared by a group of teachers. The instructor covered such areas as the importance of maintaining children in the regular classrooms, the willingness to seek help from others on the staff, the teacher's role in identification, the possibilities open to the teacher in planning programs, and the need for conscientious, observant teachers.

The participants had many questions concerning the amount of training needed for this concept, how ancillary persons could help, and specific details regarding programs for Art and Jim. The discussion began to expand into various areas of learning disabilities, instructional techniques, availability of materials, and inquiries as to where more information could be found. A few teachers asked if they could keep the materials used for further reference. The simulation workshop encompassed a total time period of five hours and ten minutes.

Development of Measuring Instruments

In order to evaluate the viability fo this simulation approach to the training of regular elementary teachers regarding the problems of learning disabilities, it was necessary to develop one instrument and adapt another for this purpose. These instruments consisted of an opinionnaire and a set of three microsimulation situations.

Adapting the Opinionnaire

The opinionnaire would be completed at the close of the workshop and designed to invite the participants to express their reactions as to the general value, comparison to other methods of teacher training, recommendations as to appropriateness of the items in the packet as well as the value of the simulation method.

Two existing opinionnaires were surveyed to determine their use with this particular simulation exercise. The opinionnaire used by Weinberger (1965) and modified by Sage (1967) was judged to be suitable for this purpose. The format of the revised opinionnaire consisted of thirteen incomplete statements, each statement followed by five or six possible endings. The participant was given the opportunity to choose the one ending which best completed the sentence according to her perceptions. Each item included endings of widely divergent viewpoints to allow the participant great latitude in expressing her opinions.

Development of Microsimulation Situations

The development of the microsimulation situations required the construction of three separate descriptive paragraphs dealing with three types of learning problems, i.e. a child with a perceptual handicap, a slow learner, and a child with mild emotional disturbance. The paragraphs were designed to portray the behavior and scholastic problems of the child in a school setting. Following each paragraph were ten declarative statements referring to the child. These statements covered a variety of issues concerning the child's problem, etiology, and possible remediation.

The paragraphs and statements were constructed from a study of reference material, journals, and clinic reports. Each descriptive paragraph and succeeding statements were the result of modifying and rearranging the descriptions of learning characteristics gained from these sources.

A Likert-type scale, consisting of five choices, was devised for the participant to use in reacting to the simulated situations. The choices included strongly agree, mildly agree, can't say, mildly disagree, and strongly disagree. A point score from one to five was assigned to these choices with number one being strongly agree.

The participant was to choose the amount of agreement or disagreement from the scale and put the corresponding number beside the statement. In this manner the participant would have an opportunity to express her agreement or disagreement with the statement on a sliding two-point scale. If the participant felt there was not enough information on which to make a judgment she was afforded an opportunity to indicate this by choosing the middle of the scale, (number three) "can't say." (See Appendix)

In order to devise a basis for scoring this evaluation instrument it became necessary to validate the instrument itself. A panel of judges was selected consisting of fourteen persons who were either professors or advanced doctoral students in the field of special education. These individuals represent a variety of specialized areas within special education, e.g. mental retardation, emotional disturbance, learning disabilities, and speech pathology. Since the target group for training with this material is regular elementary teachers, the judgment of trained specialists, even at the doctoral student level, was viewed as an appropriate criterion for inclusion on the panel. These judges were asked to react to the three microsimulation situations to determine the best choices to the statements. It was felt that this panel, with their experience and training in the education of exceptional children, would have the requisite knowledge to evaluate the learning problem described and be in general agreement in their reactions.

Eleven of the fourteen judges agreed to participate by complying with the request to react to the complete set of microsimulation situations. Their choices were then tabulated to gain a graphic illustration of the eleven choices to each of the fifteen statements in each microsimulation situation. The method used to determine the best answer was based primarily on choosing that answer selected by the greatest number of experts. Since eleven answers were recorded, any response widely divergent from the rest and recorded by only one person was disregarded. In most cases agreement was reached by six or more of the judges.

Any statement which produced a wide range of answers from the judges or on which a clear-cut decision could not be reached, was deleted from the instrument. A final set of ten statements, from the original fifteen for each paragraph, was chosen for use in the final instrument.

Having determined the best answers to the statements, scoring would be in terms of degree of agreement with the panel. A point system was devised consisting of a higher score of three and progressing downward to two, one, zero, or a minus one. Exact agreement would yield three points, a one-interval departure in either direction would yield two points. When the best answer is at the extreme end of the scale the score would be three points for an exact choice, two points for one interval away, one point for two intervals away, no points for three intervals away, and a minus one for being on the opposite end of the scale from the best answer. The total score on the test would be the summation of points from the three situations. A maximum score of ninety points would be attainable on the test.

The microsimulation situations were designed to measure the degree to which the participant's choice of diagnostic and remedial procedures agrees with the judgment of persons knowledgeable in the field.

Pilot Test of Instructional Materials and Measuring Instruments

In order to assess the viability of this general approach and these particular materials, a preliminary pilot testing, under controlled and standardized conditions, was held as part of an inservice workshop. The materials for this workshop were prepared in a temporary form to allow for subsequent revision.

Since the simulation was designed for use with regular classroom teachers, a comparable population was necessary for the pilot-testing phase. A population meeting this criterion was selected and arrangements made for the inclusion of the simulation package as part of a three-week workshop for inservice teachers.

The workshop was held in Howard County, Maryland, on

June 22 and June 23, 1970. The simulation workshop was presented to a group of twenty-six persons, twenty-one of whom were inservice regular classroom teachers, kindergarten through third grade. Five were ancillary personnel but none of the twenty-six had any previous training regarding children with learning disabilities.

The workshop was given on two successive days encompassing a total of six hours and ten minutes. The first two stages took the expected amount of time (two hours). The third stage took longer than expected due to the amount of time the participants needed to become familiar with certain information (forms F, G, and H). In addition, the introduction to the Purdue scoring system required more explanation than anticipated. The discussion and feedback session was therefore shortened as this stage was running beyond available time limits.

As a result of this loss of time for Stage 4, it was necessary to eliminate certain planned steps. It was decided to go right into individual program planning. Thus one step was eliminated and the discussion session was started before many participants had completed their programs. Stage 4, which had a scheduled time block of two hours, actually ran approximately one hour and twenty minutes.

The instructor attempted to follow the format as planned in advance. This was accomplished in all but one stage. Discussion periods were found to be rather short as the instructor felt the need to curtail debates in order to complete certain stages.

The first stage went rather smoothly although the quality of the videotape playback caused the participants to ask for identification and clarification of some of the children and their comments. In the discussion session, a majority of the participants correctly chose six of the eight children and responded to many of the appropriate clues from the tape and background material.

Although Stage 3 took longer than expected the participants reacted favorably to the information and engaged quite enthusiastically in the problem-solving experience which followed. The discussion session drew comments, questions, and suggestions from a large number of the group.

As mentioned, in the program planning stage very few completed a program. As this was not a requirement, the process by which the participants arrived at conclusions and their involvement in this stage were considered more important.

In order to assist in the evaluation, an observer took notes throughout the workshop. Adjustments were made in the final stages without being detrimental to the sequence or objectives of the simulation.

The evaluation at the conclusion of the workshop consisted of administering the complete opinionnaire, as described previously, and one of the microsimulation paragraphs. The participants were encouraged to be frank in responding to the opinionnaire so as to aid in evaluation of the materials. The results were tabulated and analyzed. Although no norms had been set at this time for the microsimulated situation, it had been reviewed by members of a state department bureau of special education.

The participants indicated their satisfaction of this approach to teacher training by rating the workshop positively on the opinionnaire. On the three questions pertaining to the value of the workshop, over twenty of the twenty-six chose the answers rating it very valuable or valuable. In general, conclusions regarding the workshop were that it is a better than average method of presenting this type of material.

Questions concerning background information were usually favorable. Questions concerning the realism and emphasis placed in this area showed satisfaction by a majority of the participants.

Questions concerning the value and length of discussion periods indicated the value of this phase, but more than half indicated the need for longer discussion periods. This was felt also by the instructor.

The phase consisting of "planning a program" was considered to be either "worthwhile" or "extremely worthwhile" by twenty-three of the respondents. A majority felt they could have planned a better program if they had more time to become familiar with the materials.

As a result of the analysis of the opinionnaire, the observations of the instructor, and the comments by the observer, a number of revisions were made. A few technical errors in the materials were uncovered, such as: an incorrect age difference from second to third grade, typographical errors, and omission of a source of information needed for problem solving.

In addition, important revisions were needed in three areas concerned with format: (1) more time was needed for the teachers to become familiar with the materials in Stage 4, (2) more time should be allotted for discussion in the later stages, and (3) the necessity of exploring how the materials could be used in the classroom.

Minor corrections were made in the printed material, changes were made in the time periods allotted for certain activities, and deletion of certain steps was made as a result of the information gained in the pilot presentation. Despite these revisions and adjustments, the evolution of the finished materials was accomplished without any serious change in the original model.

Administration of the Instruments

Following the final discussion period and prior to dismissal, each participant was requested to complete both the opinionnaire and microsimulators. Although no special instructions were needed, participants were encouraged to fill in all blanks and answer each question. Both instruments were completed anonymously as personal information was not needed in the evaluation. All seventeen participants in the workshop responded to both evaluation instruments.

Statistics Used in Analysis of the Data

The statistical procedure determined to be most applicable to this design was the t-test. Campbell and Stanley (1966, p. 26) have suggested that given interval data, the research design used in this study is "perhaps the only setting for which this test (t-test) is optimal." The object of using the t-test statistic is to determine the degree of significance of the difference between the two means of small samples. The t-test would allow for unequal size groups as used in this study. The statistical formula and procedures were adapted from Hayes (1966, pp. 301-306).

Given that the t-test was the most appropriate method to analyze the data, it was decided to apply this statistic to the evaluation instrument (discussed in

Chapter III) in two ways. The evaluation instrument consisted of three parts, but was designed to be used as a single unit. Consequently, the statistical analysis (t-test) was applied to the results received on the instrument as a whole; however, in order to present a more meaningful analysis, the t-test statistic was applied to each of the three subtests (Jimmy, Ellen, and Raymond).

CHAPTER V

Findings of the Study

The findings of this study were obtained through an analysis of the opinionnaire responses and the application of statistical procedures to the microsimulation instruments. This chapter includes an analysis of the data and a discussion of the participants' responses to the opinionnaire. (Both instruments are included in the Appendices A and B.)

Analysis of the Data

The Microsimulator

When applying the t-test to the microsimulation instrument and each of the subtests, certain factors remain constant. The N for each group remains at seventeen for the experimental group and twenty-two for the control group for each test. The research question was non-directional, thus a two-tailed test was employed in all cases. To achieve statistical significance at the .01 level with 37 degrees of freedom ($N_1 + N_2 - 2$) a t-value greater than 2.704 had to be achieved.

The results of the total instrument as utilized in this study are indicated in Table 1. It can be seen that the experimental group had a mean score of 74.1 and the control group had a mean score of 62.7 of a possible score of 90. The standard deviation for the experimental group was 28.8 while the standard deviation for the control group was 37.4. The statistical tool (t-test) used to analyze the total instrument indicated a significant difference between the two groups. A t-value of 5.882 was attained, which was beyond the t-value of 2.021 (at the .05 level), 2.704 (at the .01 level), and 3.307 (at the .002 level).

TABLE 1

Microsimulation Instrument

Group	N	Mean	SD	t-value
Experimental	17	74.117	28.8	**5.882
Control	22	62.772	37.4	
Degrees of freedom = 37				

** P < .01 (two-tail)

The evaluation instrument consists of three subtests. The N for each group (17 and 22 respectively) and degrees of freedom (37) remain the same for each subtest (Raymond, Ellen, and Jimmy). An analysis of the first subtest (Raymond) is indicated in Table 2. The mean score of the experimental group was 25.2 and that of the control group 21.5. The analysis indicated a significant difference between the two groups. A t-value of 4.590 was considerably beyond the t-value needed to be significant.

TABLE 2

Subtest - Raymond

Group	N	Mean	SD	t-value
Experimental	17	25.2	4.62	**4.590
Control	22	21.5	7.07	
Degrees of freedom = 37				

** P $<$ .01 (two-tail)

Table 3 indicates the results of the analysis of Subtest 2 (Ellen). The mean score of the experimental group was 24.9 and that of the control group 18.9. A considerable difference between standard deviations from the mean is indicated 5.63 experimental, 13.30 control); consequently, a t-score of 5.825 was attained. Thus this analysis indicated there was a significant difference between these two groups on this subtest.

TABLE 3

Subtest - Ellen

Group	N	Mean	SD	t-value
Experimental	17	24.9	5.63	**5.825
Control	22	18.9	13.30	

Degrees of freedom = 37

** P < .01 (two-tail)

Indicated in Table 4 are the results of Subtest 3 (Jimmy). The mean scores of the two groups (23.9 experimental, 22.4 control) show little difference (1.5). The difference between the standard deviation of 6.18 for the experimental group and 7.61 for the control group is considerably less than in the other subtests. A t-score of 1.72 reflects these smaller differences. There was no significant difference between the two groups on this subtest as a t-score of 2.704 had to be attained to reflect a significant difference at the .01 level.

TABLE 4

Subtest - Jimmy

Group	N	Mean	SD	t-value
Experimental	17	23.9	6.18	*1.72
Control	22	22.4	7.61	

Degrees of freedom = 37

* Not significant

A statistical analysis of the data from the microsimulation instrument as a whole indicated a highly significant difference between the experimental and control groups (2.704 at the .01 level). When analyzed independently, two of the three subtests were also highly significant (Ellen, 5.825 and Raymond, 4.590). The third subtest (Jimmy) proved not to be significant, thus raising a number of possibilities to be discussed in the following chapter.

The Opinionnaire

The opinionnaire was designed to gather information in five major areas of concern regarding the simulation workshop. These five areas consisted of 1) satisfaction with the simulation approach, 2) aspects of the discussion periods, 3) the videotaped sequences, 4) the printed materials, and 5) the program planning section. The opinionnaire was analyzed by constructing a table of the questions and number of responses pertaining to each area. An analysis and discussion precedes each table.

The participants indicated their satisfaction with simulation as an instructional approach by responding to questions 1, 9, and 12 (Table 5). Fifteen of the seventeen respondents chose either highly appropriate (Choice A) or better than average (Choice B) when comparing this method with other methods of presentation (Question 1). Fourteen (Choices A and C) considered the total simulation to be both realistic and a valuable experience (Question 9). Fifteen considered the value of the workshop to be extremely worthwhile (Question 13, Choice A) or worthwhile (Choice B). The overall reaction to the workshop, according to the responses to these questions, was extremely favorable.

TABLE 5

The Simulation Approach

	Choices Available ----------				
Questions	A	B	C	D	E
1	7	8	1		
9	6		8	1	2
12	7	8	2		

Certain questions were devised to gain an insight into the effectiveness of specific aspects of the simulation package. Table 6 deals with reactions to the discussion periods in each stage. Ten respondents were of the opinion the discussion periods were both interesting and valuable (Question 10, Choice A). Six regarded them as routine but valuable (Choice C) with one person considering the discussions as interesting, but not valuable (Choice A). Questions concerning the length of the discussion periods (Questions 3 and 11) indicated they were about right or should be a little longer. When asked if more discussion periods should be included (Question 4, Choice B and Question 13, Choice C), the indications were that the simulation would not be enhanced by adding more of them. Conclusions are that the discussion periods are valuable, could be longer, but are sufficient in number.

TABLE 6

Discussion Periods

	Choices Available ---------				
Questions	A	B	C	D	E
3	2	7	3	4	1
4	6	4	7		
10	10	1	6		
11	6	7	3	1	
13	5		2	6	4

The videotaped sequences were judged to be both realistic and a valuable experience (Question 8, Choices A and C) by fourteen of the seventeen participants as illustrated in Table 7. Written comments by a few respondents indicated the quality of both audio and video portions of the tape could be improved. When given the opportunity to choose the area of emphasis, e.g. role playing, discussions, and written materials (Questions 4 and 13), some respondents indicated the desire for more audio-visual incidents, indicating satisfaction with this mode of presentation.

TABLE 7

Videotaped Sequences

	Choices Available --------				
Questions	A	B	C	D	E
4	6	4	7		
8	4	1	10		2
13	5		2	6	4

Questions 2, 4, and 13 (Table 8) were concerned with the printed materials. These materials were rated outstandingly realistic (Question 2, Choice A) or fairly realistic (Choice B) by sixteen of the seventeen participants. The questions soliciting opinions regarding the inclusion of more of this type of material (Question 4, Choice D and Question 13, Choice B) yielded results indicating the amount of printed materials was adequate. The positive reaction concerning the quality of the material indicates the respondents' satisfaction with this aspect of the simulation.

TABLE 8

Printed Materials

	Choices Available -------				
Questions	A	B	C	D	E
2	8	8	1		
4	6	4	7		
13	5		2	6	4

The program planning section (Table 9) was referred to in questions 6, 7, and 13. Fifteen of the respondents considered this section to be extremely worthwhile (Question 6, Choice A) or worthwhile (Choice B). When asked how this task could be more effective (Question 7), fifteen respondents indicated the need for more time in general or specifically to survey the materials. This section is a major problem-solving area and six respondents chose problem solving as needing more emphasis (Question 13, Choice D). Choice E of Question 13 allowed for comments and three of the four making this choice made reference to increased activity in the program-planning section. This section yielded positive reactions to this aspect of the simulation while indicating the need for increased time.

TABLE 9

Program Planning

	Choices Available -------				
Questions	A	B	C	D	E
6	4	11	2		
7	2	8	7		
13	5		2	6	4

The results of the opinionnaire indicated an overall satisfaction with the workshop and simulation as a means of presenting this type of material. In most cases, when given a wide selection of choices both positive and negative, the participants were in favor of the materials and methods used in the simulation workshop. When forced to suggest areas for greater emphasis, the majority of suggestions were for expansion of specific methods, e.g. problem solving, filmed incidents. Written comments beside questions centered primarily on increasing the quality of the videotapes and allowing more time to become familiar with materials in the program-planning stage.

CHAPTER VI

Summary, Conclusions, and Implications for Further Research

This chapter includes a brief summarization of the study, conclusions which might be drawn from the results, limitations of the study, and implications for further research.

Summary

This study investigated the use of an instructional simulation with elementary classroom teachers. The primary emphasis was to evaluate the effectiveness of a specially designed simulation model as a means of increasing the skills needed to enable classroom teachers to identify children with learning problems, utilize ancillary personnel effectively, and initiate remediation programs within their classrooms.

A major concern of this study was the development of a viable simulation model. Materials were developed from a variety of sources; i.e., current literature, case studies, clinic records. The aim of this aspect of the study was to fuse theoretical and experiential data with practical simulation techniques.

A global approach to learning disabilities encompassing wide philosophical viewpoints provided the starting point for a gradually narrowing focus on specific learning disabilities. As each piece of material was developed around the eight case studies, repeated referral was made to Ryan's Model of Teacher Behavior (1963) in order to produce an orderly problem-solving process. The purpose of the simulation was to lead the participants through information processing to making judgments and decisions regarding learning problems of selected children.

The materials were designed to encourage participants to seek information on each child, explore other possibilities for help, and finally formulate a plan of action. In keeping with good simulation practices, participants were not penalized for wrong decisions; rather they were encouraged to search for more specific and helpful information. Discussion periods following each stage gave the participants an opportunity to exchange ideas and answer questions.

The simulation model allowed the participants to view children on videotape in a variety of school settings, review past achievements by studying school records, choose a course of action on preprogrammed materials, receive reinforcement through immediate feedback, study commercial teaching materials, and plan a remedial program for two children exhibiting specific learning disabilities.

Two evaluation instruments were developed for use in the evaluation of the viability of the simulation package. An opinionnaire was adapted specifically for this simulation; in addition, a set of three microsimulated situations was developed and then validated by a panel of judges. The simulation package and evaluation instruments were pilot tested with a group of regular classroom teachers under structured conditions. All materials were then edited and revised according to the findings of the pilot study.

The resulting simulation package, designed for use in a one-day workshop, was presented to the staff of a small elementary school in Baltimore County, Maryland, prior to the opening of school in September, 1970. Seventeen persons participated in this workshop. The presentation was divided into four stages and encompassed slightly more than five hours. Following the presentation of materials, each participant responded to the evaluation instruments.

The control group was selected from a group of teachers with similar training and experience who were attending a summer workshop. The microsimulation instrument was administered to the twenty-two members of the class to provide data for comparison with the experimental group. A t-test of the difference between the two means was employed in the analysis of the data collected.

Conclusions

The conclusions relevant to this study are discussed in this section in relation to the two evaluation instruments.

The Opinionnaire

The opinionnaire was designed to allow the participants an opportunity to anonymously express their reactions to the value of the simulation method as well as the appropriateness of the items in this particular simulation package.

The analysis of the data (Chapter V) indicated the participants' overall satisfaction with the simulation package. In addition to the favorable reactions on the opinionnaire, many participants verbalized their enthusiasm during informal discussions following the workshop. Two teachers indicated to the investigator that "this has been the most stimulating experience I have been involved in during my inservice training."

In every instance, more than three-fourths of the respondents to the opinionnaire expressed favorable choices toward the simulation package. When requested to give opinions regarding specific aspects of the simulation, consensus was attained in all but one case. The general conclusions reached were that the printed materials were a strong component of the package. This was indicated by sixteen of the seventeen participants (Table 8).

The videotaped sequences were of major importance in the simulation and were judged to be realistic and valuable by most of the participants (Table 7); however, written comments indicated the technical quality could be better. The pilot test had indicated that two scenes needed to be run twice in order to secure adequate communication of content. This was borne out by the comments during the ensuing discussion period. These results suggest that the videotaped sequences were of good content, but lacked technical audio-visual quality.

Regarding the discussion periods, clear consensus was lacking. General conclusions from this section of the opinionnaire (Table 6) indicated these discussion periods were valuable, sufficient in number, but could have been of greater length. The instructor found these four discussion periods to be of considerable value in a number of ways. During these periods the interaction between instructor and students as well as the students themselves provided considerable insight into the attitudes, skills, and problem-solving techniques of the participants. The exchange of information during these sessions was important in providing feedback to the decisions made by the participants and gave the opportunity to exchange information which added to that previously accrued.

The program-planning phase served to acquaint the participants with a variety of instructional materials to which many teachers had not been exposed previously. The respondents considered this stage to be a worthwhile experience (Table 9) and recorded for future use the names and sources of the materials. It was concluded that this was a satisfactory experience for the participants and could even be expanded.

An analysis of the participants' opinions regarding the simulation package in general as well as specific aspects of the package indicates the simulation package, as used in this study, was well received by the participants in the workshop and could very well be a viable vehicle for inservice training.

The Microsimulator

The following section deals with the conclusions reached through analysis of the data collected on the three subtests of the microsimulator and the test as a whole.

Subtest 1 - Raymond. The t-test results indicate a significant difference between the experimental and control groups (Table 2). It appears that the experimental group, by having experienced the simulation workshop, was able to be more discriminate and sophisticated in their choices of diagnostic approaches to the type of learning problem, mild emotional problem, presented in this case study. Since the simulation was designed to improve the participants' skills in these areas, it may be suggested that the simulation package meets this aim.

Subtest 2 - Ellen. The results of this subtest (Table 3) indicate a significant difference between the experimental and control groups. It would appear that this highly significant difference between the two groups indicates that exposure to the simulation package increases the participants' skills in selecting diagnostic approaches to the type of learning problem, visual-perceptual, exhibited by the case study.

Subtest 3 - Jimmy. The t-test results failed to show a significant difference between the experimental and control groups at the .05 level. Although the mean for the experimental group is slightly higher (1.5 points), the differences between the means and standard deviation are the smallest of the subtests. This lack of significant difference may lie in the fact that the simulation was not designed to increase the teachers' skills in diagnosis manifested in this particular type of non-specific learning problem, mild mental retardation. The previous training and experience of both groups possibly could have developed the expertise necessary to produce a good score. The control group scored higher on this subtest than on the other two, possible indicating a familiarity with this type of learning problem.

The results of the total instrument (Table 1) indicate a highly significant difference between the experimental and control groups. The mean score on the total instrument showed the experimental group eleven points higher than the control group. These results suggest that participants in the simulation workshop have increased their skills in the identification of a variety of learning problems and in the selection of the best procedures for further assistance to aid in the diagnosis. It appears that exposure to the role-playing technique in this simulation, coupled with the audio-visual methods of presentation and problem-solving situations, does improve certain observational skills needed by the classroom teacher to recognize those behavioral and academic indicators of potential problems.

The participants in this study, including those in the pilot testing, exhibited enthusiasm to assume the role asked of them. The opinionnaire yielded positive results regarding participants' satisfaction with this type of inservice training. The statistical analysis of the microsimulation evaluation instrument yielded a positive answer to the research question. General conclusions reached through an analysis of the results of this study suggest that this type of simulation workshop provides an effective method of inservice training for regular classroom teachers in identifying and planning remedial programs for children with learning disabilities.

Limitations of the Study

The technique of simulation has several generally recognized limitations (Cohen, 1962; Cohen and Rhenman, 1961; Twelker, 1968). Two of these limitations are of concern to this study: (1) simulation depends heavily on the competence of the instructor using it, and (2) considerable uninterrupted time is needed.

The simulation workshop requires an instructor possessing a knowledge of the field of learning disabilities. The presentation of materials and other technical aspects of the workshop could be administered by most persons with a knowledge of educational practices; however, the discussion periods depend heavily upon the instructor's background concerning many facets of learning disabilities. The nature of the questions which occurred during these discussion periods, i.e., "What is the difference between visual-motor and visual-perceptual problems?" and "Does auditory perception have any direct relationship to hearing acuity?" indicates the necessity of providing a competent instructor for this simulation presentation. Although

Twelker (1968) and Cohen (1962) have indicated the impossibility of replication in all facets of simulation, Twelker (1968) has concluded that " . . . there is enough control in the simulated environment so that the same game may be played time and again with predictable results if proper attention is given to administrative details." The competency of the instructor would be of considerable importance when attempting to utilize this package or replicate the study.

The simulation workshop in this study was designed to encompass a six-hour time period. The original concept was that the workshop be flexible enough to adhere to most inservice situations. However, an inservice workshop with time periods spaced over more than two days would probably lose the concentration necessary to remember the sequential nature of previous sessions. For this reason, the simulation workshop would require much of the uninterrupted time mentioned above. Although this would impose certain limitations on the manner in which workshops utilizing this material could be conducted, the effectiveness of the workshop would be maintained when this procedure was followed.

One factor determined by the opinionnaire and through informal discussions concerned the technical quality of the videotaped sequences. Most participants were satisfied with the content of these taped sequences; however, they indicated the audio and video were not always clear and comprehensible. In addition to these technicalities, the inability to play videotapes interchangeably on different models of video recorders limits the availability of proper equipment. The delicate nature of television reception also limits the viability of this method of communication. With these factors in mind, considerable improvements could be made by the use of professional technicians. Color film with adequate sound equipment would greatly enhance the effect of the simulated sequences. Film can be used interchangeably in different makes of equipment thus providing greater flexibility. Sophisticated technology makes it possible to superimpose written cues on the visual material for short periods when desired. This technique would dispense with the necessity of the children constantly wearing large name tags for identification.

The experience of creating, presenting, and evaluating these simulation materials has provided the investigator with positive support regarding the value of this type of inservice-training device. The results obtained in the data analysis are encouraging; however, the population used in this study consisted of a total of only thirty-nine persons. These participants consisted of a representative sample population fitting the criteria for which the materials were designed. Before attempting to generalize the results of this study it would be prudent to replicate the study with sample populations in different school settings and with different instructors.

Implications for Further Study

The informal findings related to this study, as gathered from discussions with participants and observations during the workshop, indicate a number of directions for related research. This simulation was designed to study two problems in depth while only allowing cursory examination of six others. Expansion of the package to afford deeper study of more learning problems would offer some definite possibilities. The model utilized here allows for development of materials for investigation of those learning problems uncovered in the first stage of the simulation. Additions and deletions could be made to the total package to provide a variety of simulated experiences.

Another promising area providing possibilities for further study is the expansion of the model to include specific subject areas; e.g., reading, spelling, and arithmetic. Devising videotapes and other materials for a specific subject area would provide the opportunity to assess the effectiveness of this model for a wide range of educational learning experiences. The opportunities for expansion and change in the model presented in this study provide promising implications for further research.

The need for research concerned with maintaining children with learning problems in regular classrooms is of major importance (Maryland, 1969; Siegal, 1969; Simches, 1970). The Bureau of Educational Personnel Development (BEPD), with a budget of eighty million dollars for fiscal year 1970, committed fifteen percent of these funds to support projects designed to train or retrain regular educational personnel to deal with handicapped children in regular classrooms (Education Professions Development Act, 1970). The Special Education Training Branch of BEPD has solicited articles specifically reflecting ideas about training regular school personnel and changing regular procedures so that "mainstream" educational programs could be made accomodative to children of varying handicaps (Special Education Training Branch, BEPD, 1970). Contributing authors endorsing this concept include such notable special educators as Matthew Trippe, Maynard Reynolds, William Morse, Burton Blatt, Frank Hewett, and Norris Haring.

With the Bureau of Educational Personnel Development supporting this concept philosophically and financially, continued research along the lines of this study would seem to be particularly worthy of pursuit. Therefore the Bureau should seriously consider adaptation of this model for dissemination purposes.

APPENDICES

APPENDIX A

The Microsimulator

2nd Grade Boy

Raymond presents a complex picture in his school activities. His work is sometimes exceptionally good and shows considerable creative thought. Other times, briefly or for days on end, he cannot do any type of work with clarity or consistency. Raymond has had a history of erratic scores on achievement tests, unpredictable behavior patterns and inconsistent social adjustment. To date he has managed to compile grades that have enabled him to pass from first to second grade, although he is falling behind considerably in third grade. He was chosen for a lead role in the Thanksgiving play and did an outstanding job. During this time his grades were much better although he exhibited rather aggressive behavior the very next day and for weeks after. Lately, Raymond has been stealing from the other children and his siblings at home. He reads and comprehends content as well as any student in the room but refuses to do any drill work.

Choose the extent of agreement or disagreement and place that number beside the statement.

Disagree strongly	Disagree mildly	Cannot say	Agree mildly	Agree strongly
1	2	3	4	5

___ He should be referred for special class placement.

___ He needs a stronger type of discipline.

___ The school psychologist should evaluate Raymond.

___ The cumulative record folder should be studied.

___ His periods of aggressiveness show that he needs isolation to learn.

___ His stealing is evidence of poor family upbringing.

___ There is no need for concern at this stage.

___ He needs a firm hand at home.

___ Raymond just needs love.

___ A survey of his learning strengths and weaknesses is needed.

3rd Grade Girl

Ellen is healthy and normal in all physical respects; she is happy and well-adjusted most of the time although she becomes depressed during reading sessions. She can't seem to sit still for any length of time, but will make an attempt to do so when told. She is polite even though she can't concentrate very long. She plays games well and is a leader in this respect although she sometimes mixes her lefts and rights. She can bat and kick with either side, is good at science experiments and art, poor at reading and writing. Her spelling is very poor, also, and she dislikes this as much as reading. She does very well when given any material orally and she is eager and accurate when responding to this type of material. When called upon to read, she constantly loses her place; thus she is unable to follow the theme of the story.

Choose the extent of agreement or disagreement and place that number beside the statement.

Disagree strongly 1	Disagree mildly 2	Cannot say 3	Agree mildly 4	Agree strongly

___ There is indication of a learning problem.

___ There is strong indication of emotional disturbance.

___ Ellen exhibits the characteristics of a typical mentally retarded child.

___ It would be best to refer Ellen for a psychiatric exam.

___ Ellen just needs extra homework.

___ Indications are that Ellen may have visual problems.

___ An I.Q. test would be a very important help in planning for her.

___ An optometrist or ophthalmologist should check Ellen's ocular control.

___ Ellen should be referred for special class placement.

___ Ellen's inability to keep her place could indicate a figure-ground problem.

3rd Grade Boy

Jimmy is a very pleasant and mild-mannered child. He is extremely cooperative and a pleasure to have in class. Jimmy is well-liked and eager to help the teacher. He does seem to have difficulty in most of his learning tasks. His records show a consistently low level of performance in all areas. He does try very hard and gets much of his work done, although not always correctly. Most everyone gives him credit for trying and he responds well to praise. Jimmy seems to have difficulty with abstract concepts and comprehending symbols, but he eventually learns some of the material. Some times he receives help from the other children or special help from the teacher and does better than usual. Presently he is at least one year below grade level in practically all subjects.

Choose the extent of agreement or disagreement and place that number beside the statement.

Disagree strongly	Disagree mildly	Cannot say	Agree mildly	Agree strongly
1	2	3	4	5

___ Jimmy may just need extra homework.

___ Special class placement would be advisable for him.

___ An I.Q. test would be the best help to the teacher.

___ It is very evident that Jimmy has an underlying emotional problem.

___ Jimmy needs an intensified fast-paced program to bring him up to grade level.

___ A thorough diagnosis of his learning strengths and weaknesses would be useful.

___ Jimmy needs to be given the opportunity to work at his own pace.

___ His teacher must require Jimmy to finish all work.

___ There is good reason to suspect a specific learning disability.

___ A day center for retarded children might be advisable.

APPENDIX B

The Opinionnaire

OPINIONNAIRE

DIRECTIONS: please circle the letter in front of the response that most nearly approaches your opinion to the statement.

1. As compared to other methods by which material of this nature could have been presented, I feel that the use of simulation exercises has been

   a. a highly appropriate and valuable approach.
   b. a better than average approach.
   c. no better nor worse than any other approach.
   d. not as good as some other methods might have been.
   e. generally inappropriate.

2. Specifically, the written background items seem to be

   a. outstandingly realistic.
   b. fairly realistic.
   c. conceivable.
   d. somewhat lacking in realism.
   e. highly unrealistic.
   f. no basis for judging.

3. In terms of time spent on follow-up discussion of the simulation material, discussion was

   a. far too lengthy.
   b. more than enough.
   c. about the right amount.
   d. not quite enough.
   e. not nearly enough.

4. I feel that the simulation approach could be enhanced most by greater use of

   a. role playing situations.
   b. discussions.
   c. video tapes/films.
   d. written materials.
   e. commercial remedial materials/kits.

5. This workshop was best for people who were

   a. all regular classroom teachers.
   b. teachers in special education.
   c. persons currently involved in school administration.
   d. teachers with some previous training.

6. I feel that the time spent in planning a program for the child was

   a. extremely worthwhile.
   b. worthwhile.
   c. possibly worthwhile.
   d. a waste of time.

7. I feel that the task of planning a program would have been more effective if

   a. more background information was given.
   b. more time was allotted.
   c. more time was given to orientation of materials.
   d. a lecture on the subject area was presented.

8. The classroom observation tapes were

   a. very realistic and a valuable experience.
   b. very realistic but not a valuable experience.
   c. realistic and a valuable experience.
   d. realistic but not a valuable experience.
   e. unrealistic but a valuable experience.
   f. unrealistic and not a valuable experience.

9. The total simulated situation was

   a. very realistic and a valuable experience.
   b. very realistic but not a valuable experience.
   c. realistic and a valuable experience.
   d. realistic but not a valuable experience.
   e. unrealistic but a valuable experience.
   f. unrealistic and not a valuable experience.

10. The discussion periods were

    a. interesting and valuable.
    b. interesting but not valuable.
    c. routine but valuable.
    d. routine and not valuable.
    e. boring but valuable.
    f. boring and not valuable.

11. The discussion periods should be

    a. longer.
    b. about the same.
    c. shorter.
    d. excluded.

12. The overall value of the workshop to me was

    a. extremely worthwhile.
    b. worthwhile.
    c. possibly worthwhile.
    d. a waste of time.

13. I feel that greater emphasis should be on

    a. filmed incidents.
    b. printed background material.
    c. discussion periods.
    d. problem solving.
    e. other ______________________________

APPENDIX C

The Simulation Materials

Marty Miller Grade 3 Class List

mid-year testing

ACHIEVEMENT TESTS FORM A

NAME	AGE	RDG VOC	RDG COMP	ARITH COMP	SPELL	SOC STUD	GROUP IQ	ATTEND	LAST READER	REMARKS
rade placement at testing				3.6			3.6			
rthur Lane	8.0	2.1	2.0	2.7	2.6	2.8	88			
arrett Gains	8.7	2.7	2.8	3.1	2.0	2.7	95			
eorge Halko	10.0	2.0	1.9	2.8	2.7	2.9	81			
ames Carson	9.0	2.8	2.1	2.8	3.1	2.9	91			
effery Fowles	8.1	3.0	3.3	3.2	3.1	2.9	98			
oseph Sloan	9.0	2.3	2.6	3.1	3.0	2.6	98			
loyd Maslow	9.0	3.3	3.4	3.6	3.7	3.5	100			
aul Trusty	8.5	3.8	3.9	3.8	4.0	3.7	115			
alph Mantia	8.2	2.4	2.3	3.8	3.0	2.6	97			
oger Scopa	8.6	3.8	3.7	3.6	3.6	3.8	99			
onald Barton	8.4	3.0	2.8	3.0	2.4	[illegible]	100			
onald Zellman	8.1	3.6	3.7	3.3	3.4	3.8	110			
amuel Collela	8.4	2.9	2.9	3.0	3.1	3.2	94			
ayne Hanrahan	8.2	3.3	3.4	3.6	3.5	3.5	100			
eth Lawson	8.4	3.1	3.3	3.4	3.3	3.8	93			
nthia James	8.2	3.2	3.3	3.8	3.2	3.8	104			
nis Mills	8.7	2.9	3.1	3.4	3.3	3.6	102			
an Tolley	8.3	2.9	2.9	3.3	3.3	3.0	89			
thleen Gordon	8.3	3.2	3.4	3.6	3.4	3.8	103			
ureen Kelly	8.6	3.4	3.6	3.7	3.6	3.9	116			
chelle Keough	8.6	3.6	3.7	3.4	3.3	3.7	102			
erry Williams	8.2	2.8	2.4	2.7	3.3	3.3	94			
san Callo	9.0	3.6	3.4	3.3	3.7	3.4	102			
rginia Slago	8.1	2.9	3.2	3.0	3.4	3.3	98			

Judith Barton Grade 2 Class List

mid-year testing

ACHIEVEMENT TESTS FORM A_1

NAME	AGE	RDG VOC	RDG COMP	ARITH COMP	SPELL	SOC STUD	GROUP IQ	ATTEND	LAST READER	REMARKS
rade placement at testing				2.6			1.6			
eth Lawson	7.4	2.3	2.1	2.0	2.4	2.7	99	159	2^1 p.101	socializes too much
ynthia James	7.2	2.1	2.3	2.5	2.1	2.6	108	178	2^1 p.101	talks too much
oris Knight	7.3	2.4	2.1	2.6	2.5	2.7	100	164	2^1 p.101	nice girl
lizabeth Shea	6.9	2.9	2.4	2.3	2.0	2.1	110	150	2^2 p.170	good student
eorgia Greene	7.3	1.9	2.0	1.9	2.3	2.0	91	168	2^1 p.101	poor work habits
anis Mills	7.7	1.9	2.0	2.2	2.4	2.6	104	155	2^1 p.101	very quiet
aureen Kelly	7.6	2.3	2.4	2.9	2.4	2.6	113	169	2^2 p.170	works very hard
ichelle Keough	7.6	2.5	2.6	2.5	2.1	2.5	106	176	2^2 p.170	works hard
usan Callo	8.0	2.7	2.5	2.4	2.5	2.2	108	168	2^2 p.170	average student
irginia Slago	7.1	1.9	2.0	2.0	2.1	2.1	96	172	2^1 p.101	very shy
rthur Lane	7.0	1.5	1.0	2.0	1.4	2.0	93	142	1 p.78	erratic performance
ric Mann	7.4	1.9	2.0	2.1	1.9	2.4	100	158	2^1 p.101	poor work habits
arrett Gains	7.7	1.9	1.9	2.1	1.5	2.0	95	162	2^1 p.101	doesn't pay attention
eorge Halko	9.0	1.4	1.0	1.7	1.9	2.0	82	171	1 p.78	needs individual help
ames Carson	8.0	1.4	1.7	1.9	2.1	2.0	94	170	2^1 p.101	uncoordinated - messy
effery Fowles	7.1	2.1	2.4	2.0	2.9	1.9	98	168	2^1 p.101	could put forth more
oseph Sloan	8.0	1.3	1.7	2.0	2.2	2.1	101	172	1 p.61	refuses to listen
loyd Maslow	8.0	2.1	2.6	2.5	2.4	2.6	99	170	2^2 p.170	talks too much
aul Trusty	7.5	2.1	2.6	2.8	2.9	2.6	109	174	2^1 p.101	could do better
alph Mantia	7.2	1.6	1.7	2.4	2.0	2.2	98	164	1 p.61	acting up in class
oger Scopa	7.6	2.9	2.8	2.5	2.4	2.6	103	160	3^0 p.11	excellent student
onald Barton	7.4	2.0	1.9	2.1	1.6	2.2	108	170	2^1 p.101	talks out in class
onald Zellman	7.1	2.8	2.5	2.3	2.6	2.9	108	163	2^2 p.170	good student
ayne Hanrahan	7.2	2.3	2.2	2.5	2.6	2.5	101	177	2^2 p.170	could do better

INITIAL AWARENESS FORM

FORM C

On the basis of what you have seen so far,indicate the names of children who seem to have problems and WHY you have indicated them.

NAME	
1.__________	
2.__________	
3.__________	
4.__________	
5.__________	
6.__________	
7.__________	
8.__________	
9.__________	
.0.__________	

MASONVILLE SCHOOL DISTRICT

Bennett SCHOOL

AGE ON SEPT 1 OF PRESENT YEAR

YEARS 8 MONTHS

BIRTH CERTIFICATE

☐ BIRTH CERTIFICATE ☐ PASSPORT
☐ BAPTISMAL RECORD ☐ TRANSFER

TRANSFER RECORD

TRANSFERRED TO M.S.D. FROM

GRADE LEFT M.S.D.

TRANSFERRED TO:

REASON:

RE-ENTERED FROM: IN GRADE

SPECIAL TESTS

Grade	Test	Score

LOCAL TEST

Subject	Grade	Score

ATTENDANCE RECORD

	Kdg.	1st	2nd	3rd	4th	5th	6th	7th	8th
Total Days Present	160	171	142						
Possible No. of Days Attendance	175	180	180						

MENTAL MATURITY TESTS

Grade	Test Given	Age	Language IQ	Non-Lang IQ	Grade	Test Given	C. A.	M. A.
1	Cal. M. M.	6.8	-	93				

ACHIEVEMENT TESTS

STATE SURVEY TESTS

Grade	Test Given	Test Level	Grade	Test Given	Test Result
1	Metro	Pri	8	Math - A	
2	Metro	Pri	8	English - A	
3	Metro	Pri	8	Science - A	
			8	Social Studies - A	
			9	Math - B	
			9	English - B	
			9	Science - B	
			9	Social Studies - B	

MUSIC TEST

Grade	Test Given	Raw Score	Recommendation

INTEREST INVENTORIES

Grade	Test Given	Areas of Interest

GRADE

PARENT-TEACHER CONFERENCES

Kdg. - Both parents came, seemed uninterested, left early - Said nothing about his repeating.

1st - Mother was very concerned that Art was poor in reading. She stated that her other children were good readers when they were in 1st grade

2nd NO CONFERENCES - PARENTS DIDN'T ATTEND.

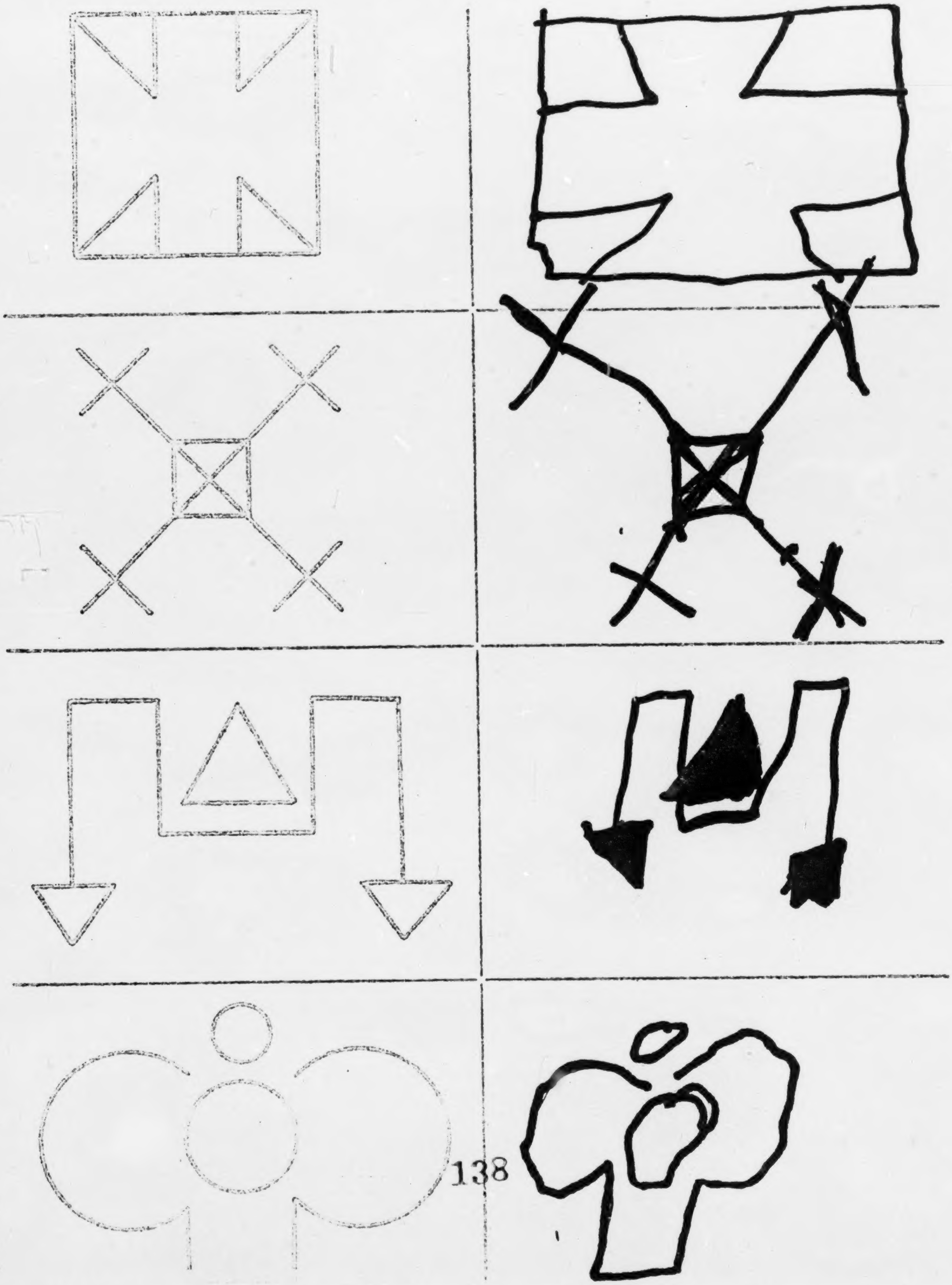
composition - Jan.
"Make up a story"

a Mystery Story
five year ago

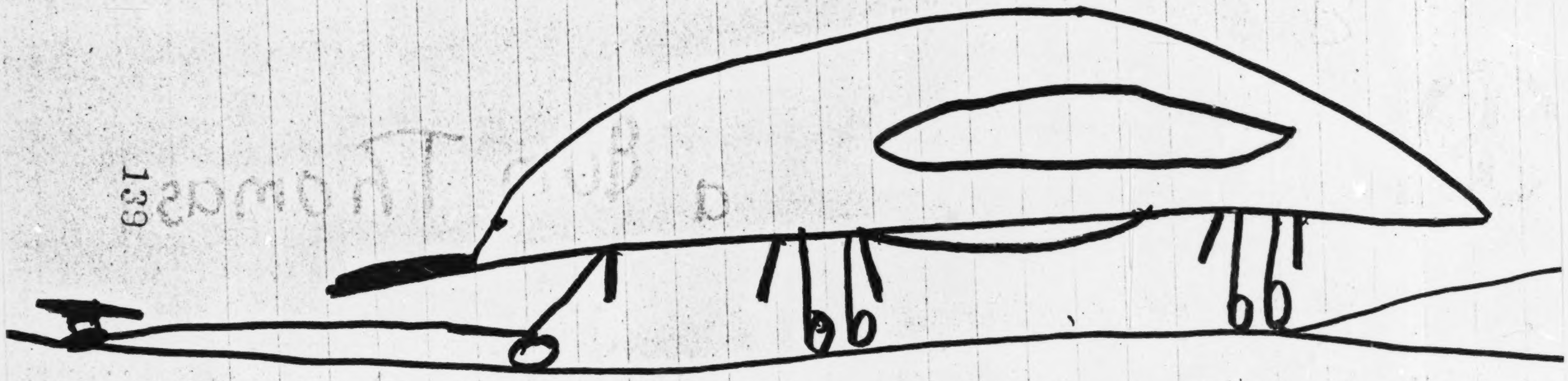
Five year ago There was an old woman. But That is not The Beginnig It all Started when four men + one woman Planned a Bank robbery They had glass sleeping machines in a Cave near By after The Robbery They hid The money deep in The Cave

Copy this
current oct.

ART



Curran
Art lessons
"draw anything"



130

NAME Art Lane

AGE ON SEPT 1 OF PRESENT YEAR

BIRTHPLACE: Masonville

DATE

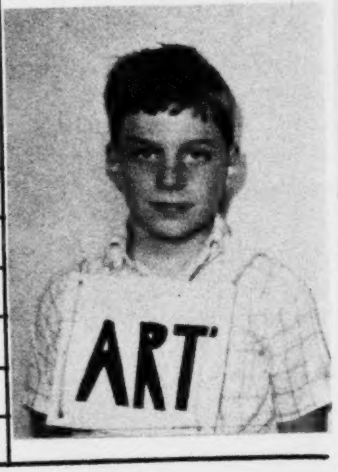
ADDRESS 322 Sellers Rd.

TELEPHONE 473-6001

FAMILY DATA

	FATHER:		MOTHER:
	Own ☒ Step ☐ Foster ☐ Guardian ☐		Own ☒ Step ☐ Foster ☐ Guardian ☐
NAME	Gerald		Julie
RELATIONSHIP			
BIRTHPLACE			
OCCUPATION	Mechinist		
EMPLOYER	RenFro Products		

CHILDREN	Presentages
Donald	16
Constance	13
Ronald	8



ACHIEVEMENT

PRIMARY
V — Very Good Progress
G — Good Progress
N — Needs to Improve

GRADES 4 - 8
A — Excellent
B — Above Average
C — Average
D — Below Average
E — Failing

← Individual → ← Comparative →

Subject Areas:	1	2	3	4	5	6	7	8
English	N	N						
Social Studies								
Science								
Mathematics	G	G						
Reading	N	N						
Spelling	G	N						
Teacher's Initials								
PROMOTION:	S	S						

HOME CONDITIONS

Good

HEALTH CONDITIONS

Good

140

ACTIVITIES AND INTERESTS

Sports

SPECIAL ABILITIES—AWARDS

UNUSUAL OR SIGNIFICANT BEHAVIOR AND/OR PERSONALITY CHARACTERISTICS

(After each statement the teacher should sign her full name and give the grade level)

1st - Art can't seem to focus on any — subject for long - he cannot learn to color or copy.

2nd ART CAN'T MASTER CURSIVE WRITING — STILL PRINTS, WORK IS VERY SLOPPY ALTHOUGH HE DOES WELL ON DISCUSSIONS.

FORM E

NAME	INITIAL HYPOTHESES (FORM C)	ADDITIONAL INFORMATION (CUM RECORD)	REVISED HYPOTHESIS
1.______________			
2.______________			
3.______________			
4.______________			
5.______________			
6.______________			
7.______________			
8.______________			

CHOICE OF ACTION	NO.
ask for more information from the principal	1
ask for more information from psychologist	2
plan an individual program for each child	3
request special class placement	4
ask for more information from the school nurse	5
ask for more information from former teacher	6
do informal tests or further diagnosis in class	7
nothing more needs to be done	8
ask for more information from parents	9

NAME	ACTION CHOSEN			
	1st	2nd	3rd	4th
Ronald				
Garrett				
Art				
Jim				

For reactions to your choice turn to Form G. If you reconsider this choice, list that choice in column 2 of Action Chosen, etc.

Responses to Action Taken in Form E_1

Directions:

The responses to actions taken in Form E_1 for each child are found on the backs of the sheet labelled with the number of the action. The response sheet is the same for each child except in the case of action 5 where Ron's response sheet is labelled 5A and follows sheet 5. Please read only the responses to the actions you have written on Form E_1.

***Please do not write on these sheets -

MEMO

From the desk of…

BURTON BEALE

Marty,

I have considered your note requesting help with one of your students. As I am unfamiliar with this child, I will not be able to help you at this time. Have you checked his work and records? How about other staff members? Would you like to see the psychologist?

Check back when you have more information and I will see what can be done

B.B

MEMORANDUM

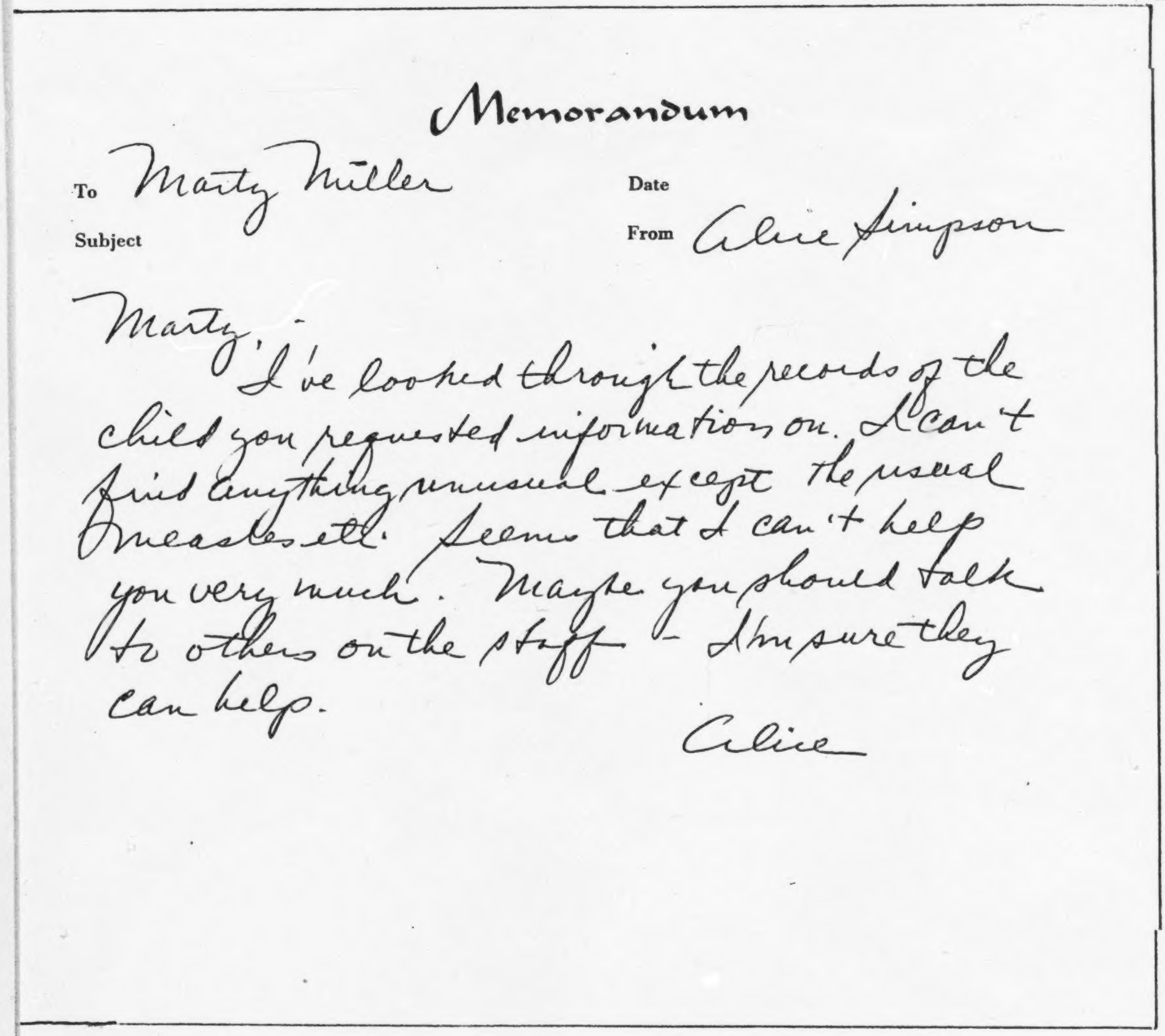
From: Dan Solvay
To: Marty Miller

I would be more than happy to help you with your request. It is a pleasure to find a teacher referring a child for learning difficulties when so many other teachers appear only to notice children's behavior problems.

I will be able to help you evaluate this child and supply you with additional information in a very short time. I will call you soon.

THE TOTAL AMOUNT OF INFORMATION YOU HAVE RECEIVED TO THIS POINT WOULD NOT BE SUFFICIENT TO PLAN A SPECIFIC REMEDIAL PROGRAM. PERHAPS YOU SHOULD SEEK ADDITIONAL INFORMATION THROUGH OTHER SOURCES.

HAVE YOU TRIED EVERY METHOD AND MADE EVERY ATTEMPT TO HELP THE CHILDREN IN YOUR CLASSROOM? ARE THERE ENOUGH INDICATIONS THAT A SPECIAL CLASS WOULD BE THE BEST EDUCATIONAL SITUATION FOR THEM? PERHAPS YOU WOULD NEED ADDITIONAL INFORMATION BEFORE MAKING THIS RECOMMENDATION. WHAT WOULD BE THE BEST SOURCE FROM WHICH TO GATHER THIS INFORMATION?



Memorandum

To Marty Miller

Date

Subject

From Alice Simpson

Marty -

I've looked through the records of the child you requested information on. I can't find anything unusual except the usual measles etc. Seems that I can't help you very much. Maybe you should talk to others on the staff - I'm sure they can help.

Alice

Memorandum

To Marty Miller

Date

Subject

From Alice Simpson

Marty,—

I've looked through Ronald's records as you have requested. Except for measles, etc. the only unusual information is that Ron's doctor prescribed Ritalin to calm him down last year. Maybe you should talk to others on the staff. I'm sure they can help.

Alice

Marty,

I've finally had a chance to look over the records of those former students of mine that you are interested in. I'll try to jot something down on each one. Hope it helps. Maybe you can gather more information from some of the other people on the staff.

Judy

Garrett — He is a puzzle. It is hard to tell when he is listening and doesnt seem to pay much attention in class.

Ronald — Can't seem to sit still nor sticks with an assignment for any length of time. He always did sloppy work.

Art — He has his ups and downs. Some days and some projects he does well and others he does poorly. He usually tries to do his assignments.

Jim — He has a hard time reading and does very sloppy papers. I had a difficult time correcting his work. When I've explained it time he

INFORMAL TESTING WOULD PROVIDE YOU WITH PERTINENT INFORMATION IN YOUR ASSESSMENT. THIS OPPORTUNITY WILL BE PROVIDED SHORTLY. DO YOU HAVE IN MIND WHAT INFORMAL TESTS OR OBSERVATIONS YOU WISH TO MAKE? WHO MIGHT HELP YOU IN SELECTING AND INTERPRETING THESE INFORMAL TESTS? IS THERE ANY OTHER SOURCE OF INFORMATION THAT YOU MAY INVESTIGATE IN THE MEANTIME?

IF NOTHING MORE NEEDS TO BE DONE, WHAT WILL HAPPEN TO THESE CHILDREN? HAVE YOU EXPLORED ALL POSSIBILITIES? IF YOU FEEL YOU MAY NEED MORE INFORMATION, WHERE WOULD THE BEST SOURCE BE AT THIS TIME?

NOTES ON PARENT CONFERENCES

RON Both parents attended the conference. They agree that Ron is "active", but he doesn't cause trouble at home. They did agree that he can't stick to one task long and said that the medicine prescribed by the doctor did calm him down. They had discontinued the medication on their own last summer, since he wasn't in school. They just never had the prescription refilled.

GARRETT Mrs. Gains attended the conference and expressed a desire to help in every way. She indicated that Garrett had been tested for hearing loss (which indicated no problem) and still had periods where he didn't seem to hear or at least understand what was being said. He is very interested in T.V. and knows a lot about current events. He does not talk very much to older children, but gets alongwith younger children very well. He seems to be well adjusted in his relationships with others when engaged in games etc. He loves to draw and does very well at it.

JIM Mrs. Carson attended the conference, but didn't feel that Jim was having much trouble. She says that he is happy and well adjusted at home, even though he doesn't play games with the boys "He seems to know many things that boys older than he is should know". His hobby is collecting rocks and he enjoys this very much. His mother did admit that even though Jim can't "talk a good story" he has trouble expressing himself on paper or reading about rocks.

ART Parents declined to attend and would only talk for a few minutes on the phone. They were concerned that Art was still printing and blamed this on the school (as were all of Arts' failures). The mother promised to check his homework assignments.

PERCEPTUAL PROCESSES

Study Guide and Bibliography

This study guide and bibliography has been devised to assist teachers and other educators to plan educational programs for students who exhibit learning problems due to a deficit in one or more of the perceptual processes so necessary as a basis for learning in the schools. The reader should not be overly concerned with the label attached to the specific area of perception. These labels are only a frame of reference from which to refer to the literature and aid in investigation of the child's learning difficulties. The teacher is requested to understand the operational definitions and check each child against these definitions. Each child should be observed to ascertain if these characteristics are present and interferring with the child's learning processes.

Professional help such as an audiologist should be secured to determine the child's auditory acuity (ability to receive and differentiate auditory stimuli) as well as an optometrist to ascertain the child's visual acuity (ability to see objects in one's visual field and differentiate them accurately).

Visual Perception - ability to recognize and discriminate visual stimuli and to interpret those stimuli by associating them with previous experiences. This area includes the following sub-areas:

Figure-ground relationships - ability to select a particular stimuli from a mass of incoming stimuli and shift this attention when necessary.

educational illustration - pupil can differentiate pictures of self and friends from group pictures, perceive simple words and forms and letters imbedded in others, follow word for word and sentence by sentence while reading

Perceptual constancy - ability to recognize a given shape, figure, letter or word regardless of the shape distortion, size, color or background.

educational illustration - child can recognize a letter or shape on a chart as well as on the board or on paper. Ability to match various symbols and letters in different setting.

Visual discrimination - ability to discriminate between different objects, forms and letter symbols.

educational illustration - a pupil can match identical pictures and symbols, see likeness and differences in many different settings; circle and square, a & e, etc.

Visual memory - the ability to recall accurately a number of related items immediately after visual presentation.

educational illustration - pupil can recall where he stopped reading, can recall where objects were placed before being moved and can match symbols in sequence.

Spatial relationships - ability to recognize positions of objects in relations to each other and himself.

educational illustration - pupil is able to maintain letters in words, words in sentences, and solve problems in sequential steps and arrange materials on a page.

Positions in space - the perception of the relationship of an object to oneself. Understanding of the concepts of over, under, behind, between, above, below, etc.

educational illustration - ability to organize materials, judging the space needed and manipulate blocks, draw three dimensional pictures, puzzles and do craft projects.

Auditory Perception - ability to receive and understand sounds and their meaning. Interpretation of auditory stimuli and associations with previous experiences. This area includes the following sub areas:

Auditory discrimination - ability to identify and accurately choose between sounds of different frequency, intensity and pattern; likenesses and differences.

educational illustration - child can't discriminate between such words as "cad," "cab," "cat," etc. May be able to differentiate between a knock of the door and the ring of the phone, but not between the telephone ring and doorbell ring.

Auditory memory - the ability to retain and recall auditory information.

educational illustration - a child can remember and follow a series of verbal directions or repeat words, digits or other sounds when required to do so.

Auditory sequencing - the ability to recall auditory information in the correct sequence when required.

educational illustration - a student can remember and repeat series of complex directions, digit and letter series.

Auditory-vocal association - ability to respond verbally in a meaningful way to auditory stimuli.

educational illustration - a student can verbally respond to questions, complete sentences, give opposites and similarities in a smooth, fluent manner.

Non-Verbal Visual-Motor Coordination - ability to coordinate vision with movements of the body parts, to perceive and execute finely controlled movements. This area would include such sub-areas as:

Eye-Hand coordination - ability to make the hand do what the eye sees to be done.

educational illustration - the child has the ability to copy, draw, and exhibit smooth muscle control whenever the eye and hand must work together.

Ocular control - ability to control the movements of the eyes so as to exhibit smooth flow and coordination, to work together as a pair.

educational illustration - the child is able to follow moving targets smoothly and to follow lines of print accurately without losing the place.

Sensory-(Perceptual Motor) Integration - the integration of fine and gross motor activities with the perceptual input associated with these skills. This area would include:

Gross muscle control - the development, awareness and control of large muscle activity.

educational illustration - the child is able to perform adequately in the areas of running, jumping, walking, throwing, skipping, etc.

Balance and rhythm - ability to achieve the gross and fine motor control necessary to maintain balance and move rhythmically.

educational illustration - the child can walk a narrow line, engage in games such as hopscotch and dodge ball.

Laterality - the internal awareness of the two sides of the body and their differences. The ability to integrate sensory-motor contact through homolateral hand, eye and foot dominance.

educational illustration - the student has consistent right or left sided approach in use of eyes, hands, feet in all tasks.

Directionality - is the projection outside a person of the laterality which has been developed within. It is the ability to know right from left, up from down, forward from backward, etc.

educational illustration - a student is able to write and follow reading material from left to right, locate directions and indicate right and left body parts of himself and others.

FORM F

Body image - complete awareness of the body and its possibilities of performance, includes knowledge of body parts and relative positions.

educational illustration - a student can identify the parts of his body by name, locate them and know how to use them in games, crafts and normal activities.

Temporal understanding - the ability to be aware of time and to judge passage of time as well as organization in terms of time.

educational illustration - the student understands the meaning of time restrictions dealing with assignments. He is aware of hours, days of the month, seasons, and has a concept of yesterday, today and tomorrow.

Tactile discrimination - the ability to match and identify objects by touching and feeling, using the sense of touch as a means of perceptual input.

educational illustration - ability to assemble puzzles and objects without the use of vision, discriminate the weight and texture of cloth in the same manner; also quarters, dimes, nickels.

Kinesthetic sense - referred to as muscle sense; pertaining to the sense by which muscular motion, position, or weight are perceived.

educational illustration - student has the awareness of the amount of energy needed to lift, throw and utilize large and small muscles.

Associational Processes - those processes formed by a combination of the above, usually an input from one sense modality and a corresponding output from another. These may take the form of visual-vocal, auditory-motor, auditory-vocal, visual-auditory-motor, visual motor. These processes are involved in every day classroom experiences and involve the integration of various forms of stimuli to to produce a number of verbal or non-verbal outputs.

Additional terms sometimes used as descriptors of children and their learning problems:

distractability - the tendency for attention to be drawn to extraneous or unessential stimuli.

perseveration - the inability to shift with ease from one concept to another, or the continuation of a task long after a reasonable time.

hyperactivity - seemingly uncontrolled, excessive activity and surplus energy.

dissociation - the inability to see things as a whole, tendency to respond to stimulus in terms of parts and details.

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Allyn and Bacon, 470 Atlantic Ave., Boston, Mass.

Programming Learning Disabilities: Robert Vallet
Fearson Publishers, 2165 Park Blvd., PaloAlto, Calif. 94306

Remediation of Learning Disabilities: A Handbook of Psycho-Educational Resource Programs: Robert Vallet
Fearson Publishers, 2165 Park Blvd., PaloAlto, Calif. 94306

Physiology of Readiness: G. N. Getman and Elmer Kane
P.A.S.S., P.O. Box 1004, Minneapolis, Minn. 55440

Slow Learner in the Classroom: Newell Kephart
Charles Merrill Books Inc., Columbus, Ohio

Motoric Aids to Perceptual Training: Newell Kephart
Charles Merrill Books Inc., Columbus, Ohio

Purdue Perceptual Motor Survey: Roach & Kephart
Charles Merrill Books Inc., Columbus, Ohio

Movigenic Curriculum: Raymond Barch

A Teaching Method for Brain-Injured and Hyperactive Children: William Cruickshank
Syracuse University Press, Syracuse 10, New York

Learning Disorders Vol. I: Jerome Helmuth
Special Child Publications, 4535 Unionbay Place NE, Seattle, Washington

Special Education: Roger Regar, W. Schroder, K. Ushold
Oxford University Press, 1600 Pollitt Dr., Fair Lawn, New Jersey 07410

Developmental Sequences of Perceptual Motor Tasks: Byrant Cratty
Educational Activities, Freeport, L.I. New York

Journals
Journal of Learning Disabilities
Vol. 1 No. 4 April 1968
Vol. 1 No. 1 January 1968
Vol. 1 No. 7 July 1968

Exceptional Children, Dec. 1964

FORM H

MEMO

From: Dan Solvay

To: Marty Miller

Marty,

Enclosed are the psychologicals you requested. I've just completed the last one. I would be interested in discussing these children with you very soon. In the meantime there are a number of informal tests that you can administer in your classroom in a short period of time. These would include a Frostig, Bender or Purdue. If you don't have these materials, please stop in the office for them. As far as I can see the Purdue would be especially appropriate for Jim and Art.

I have included a booklet that was given to me at a recent conference. This may be of some help to you as you plan a program for these boys. I'm glad to see that you are checking all possible sources of information.

Dan

FORM H

PSYCHOLOGICAL REPORT
(Confidential)

Name: Art Lane Birthdate: August 18, Age: 8 yrs, 6 mos.

School: Bennett Grade: 3

Referral: Marty Miller

Date of Exam: February 18, Examiner: Daniel Solvay

Reason for Referral:

Art has difficulty with basic second grade skills even though he is eight years old and in the third grade. His main problem is reading. He sometimes writes backwards and is still printing.

Techniques Utilized:

Wechsler Intelligence Scale for Children
Illinois Test of Psycholinguistic Abilities
Bender-Gestalt

Test Results:

	Verbal Subtests		Performance Subtests	
WISC:	Information	9	Picture Completion	6
	Comprehension	10	Picture Arrangement	10
	Arithmetic	8	Block Design	6
	Similarities	11	Object Assembly	9
	Vocabulary	9	Coding	7
	(Digit Span)	9		

Verbal IQ	105
Performance IQ	82
Full Scale IQ	94

		Language Age
ITPA:	Auditory-Vocal Automatic	9-0
	Visual Decoding	7-6
	Motor Encoding	8-6
	Auditory-Vocal Association	8-6
	Visual-Motor Sequencing	7-6
	Vocal Encoding	9-0
	Auditory-Vocal Sequencing	8-6
	Visual-Motor Association	8-0
	Auditory Decoding	8-6

Interpretation:

Art's performance on the WISC reflects his extreme difficulty with tasks involving visual-perception. While his Verbal Subtests appear average (with the exception of Arithmetic), his Performance Subtests are well below the average range. The only exception came in Picture Arrangement, which is a function of

Interpretation cont.

his ability to think in a sequential manner. He experienced great difficulty with the sub-test involving the ability to reproduce a visual pattern (thru arranging blocks), and in finding the missing component in a picture. He also did poorly in copying symbols.

On the Bender-Gestalt, a test requiring him to copy forms, he scored 9 errors. This is significantly poorer than the expected score of 1.7 for his age. His errors included mishapen angles, failure to integrate shapes, and rotation of figures.

The ITPA performance reflected more of his problems in visual perception. He did poorly in areas involving the ability to understand what he sees, that is, picture identification and in areas involving the ability to correctly reproduce a sequence of symbols previously seen. His apparent strengths lie in auditory memory and the use of spoken words in meaningful ways.

Conclusions and Recommendations:

Art's intellectual potential lies within the average-normal range. There was some discrepency between his verbal and performance abilities, with the verbal areas showing more strengths than the performance areas. Art's disability seems to be one of a visual nature. Specifically, he has difficulty interpreting visual symbols meaningfully and in reproducing visual symbols in a relevant way.

Training in visual perception is recommended. Especially relevant would be tasks involving copying forms and tracing. Effective use should be made of his strengths in auditory perception and expressive languages (build up his visual perceptual deficits.)

Form I

MARIANNE FROSTIG DEVELOPMENTAL TEST OF VISUAL PERCEPTION

This test focuses on the five visual perceptual abilities that seem to have the greatest relevance to academic development. The raw scores are converted to age equivalent scores indicating the chronological age a child has reached. These scores may be compared to the child's chronological age as a means of comparison. A total score is converted to a score indicating the child's Perceptual Quotient with 100 being the mean. This score is useful in determining the child's ability to integrate and respond to visual stimuli.

Test I.....Visual motor coordination is the ability to coordinate vision with movement of the body or with movements of parts of the body. A low score would indicate that a child is unable to effect a smooth coordination between visual and motor activities.

Test II....Figure ground relationship is the ability to select a particular stimulus from a mass of incoming stimuli and shift attention to another stimulus when necessary. A low score would indicate that a child is unable to select out a particular figure, letter or word from extranious background stimuli and thus he would be unable to follow a reading lesson or would skip sections of work.

Test III...Perceptual Constancy is the ability to perceive an object as possessing invarient properties, such as shape, position and size in spite of the variability of the impression of the sensory surface. A low score would indicate that a child is unable to transfer his image of a shape from one media to another, thus learning to read or work with symbols is difficult.

Test IV....Position in space may be defined as perception of the relationship of an object to the observer. This includes body image, body schema and body concept. A low score would mean the child has difficulty in perceiving the proper position of letters such as b and d or words such as NO or ON, thus reading, spelling and arithmetic would be extremely difficult.

Test V.....Spatial relationships is the ability of an observer to perceive the position of two or more objects in relation to himself and in relation to each other. A low score would indicate that the child is having problems in the proper perception of the sequence of letters in a word or other sequences of problem solving.

FORM I 155

NOTES AND COMMENTS

General performance is poor.

figure-ground and spatial relations are lowest area.

Remediation needed in all areas except position in space.

[illegible] OF VISUAL PERCEPTION

CHILD'S NAME LANE, ART

PARENT'S NAME GERALD-JULIA

ADDRESS 322 SELLERS RD

TELEPHONE 473-6001

	YEAR	MONTH	DAY
DATE OF TEST		FEB	21
BIRTH DATE		AUG	18
CHRONOLOGICAL AGE	8	6	

I.Q. 94 HANDEDNESS AMB GRADE 3

SOCIAL ADJUSTMENT GOOD

READING ACHIEVEMENT POOR

MEDICAL DIAGNOSIS IF AVAILABLE

DIAGNOSING PHYSICIAN AND AGENCY

TELEPHONE

EXAMINER

SUBTESTS	I	II	III	IV	V	
RAW SCORES	12	4	8	6	4	
AGE EQUIVALENTS	7.6	6.6	7.0	7.10	6.10	TOTAL
SCALED SCORES	8	6	7	9	6	36
	PERCEPTUAL QUOTIENT					87

Form J

PURDUE PERCEPTUAL MOTOR SURVEY---scoring

Walking Board

Task indicators---Device for measuring dynamic balance; can the child use both sides of his body in balancing; are appropriate muscle groups brought into action when he is faced with losing his balance; has he developed postural flexibility to meet new situations requiring balance to transfer his prior learning in this area from a specific situation to another similar situation.

scoring:

forward----4. If the child walks easily and maintains balance throughout

3. If the child has difficulty, but is able to regain balance each time

2. If the child steps off the board more than once, pauses frequently or has difficulty regaining balance

1. If the child can't perform or 1/4 of his performance is out of balance

backward---4. If the child walks easily and maintains balance throughout without looking behind

3. same as forward

2. If the child steps off the board more than twice, if he pauses frequently

1. same as forward

sidewise---4. If the child walks easily in either direction

3. same as forward

2. same as forward

1. If he can't perform, if the performance in one direction is better than the other. (indicates difficulty)

Jumping

Task indicators---Helpful in detecting children with laterality, body image, rhythm or neuromuscular control problems. Task A is to test bilateral

Jumping cont.

activities, task B and C unilateral activities, task D, E and F are for alternating tasks in a regular pattern and finally tasks G and H are for irregular patterns.

scoring:

The same for all tasks.

4. If the child performs all tasks easily
3. If the child can alternate sides symmetrically (A thru F)
2. If the child can hop on either foot at will (A thru E) adequately
1. If the child can only perform symmetrically (fewer than five tasks performed adequately)

Factors to be observed and considered.

A. Can the child use both sides of his body in bilateral activity?

B. Can he shift from one side to the other in a smooth fashion?

C. Is the postural shift from one side to the other accomplished as two separate performances? Is there a temporal lag evident?

D. Can the child sustain regular and irregular patterns which demonstrate rhythmic and coordinated control?

Angels-In-The-Snow

Task indicators----Useful in detecting problems in neuromuscular differentiation and specific problems with right and left-sidedness.

scoring:

The same for all tasks.

4. If the child performs adequately for all tasks
3. If the child shows only slight hesitancy in some patterns or if he shows restricted movement or overflow which is corrected in one repetition
2. If the child shows marked hesitancy in beginning the movements or if he can't correct with one repetition of the instruction

ART

Form J1

	Score					
	4	3	2	1		
Walking Board: Forward					Balance and Posture	
Backward						
Sidewise						
Jumping		X				
Indentification of Body Parts		X			Body Image and Differentiation	
Imitation of Movement			X			
Obstacle Course		X				
Kraus-Weber		X				
Angels-in-the snow						
Chalkboard Circle					Perceptual-Motor Match	
Double Circle						
Lateral Line						
Vertical Line						
Rhythmic writing Rhythm				X		
Reproduction			X			
Orientation			X			
Ocular Pursuits Both eyes					Ocular Control	
Right eye						
Left eye						
Push-up						
Visual Achievement Forms Form			X		Form Perception	
Organization			X			

SUMMARY EVALUATION

FORM O

	Describe the problem in educational terms	Factors leading to this conclusion	How does this problem differ from the others
Garrett			
Ronald			
Jim			
Art			

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